

tral region of the interambulacral areas. The depression, however, also includes the two marginal rows of each interambulacral series. There is likewise a faint narrow, almost linear, impression on the internal cast, extending from the apical disc about half way down the middle row of plates in each interambulacral field.

This form can be at once distinguished from *O. Danæ*, the only other known species of this type, by its proportionally much larger and less numerous interambulacral plates, of which there are only *five* instead of *eight or nine* rows to each area. Its ambulacral areas are also proportionally narrower, and, as already stated, differ in not being furrowed along each side, with a ridge along the middle.

As we have elsewhere suggested, the group *Oligoporus* seems to be exactly intermediate in its characters between *Melonites*, Owen and Norwood, and *Palæchinus*, (Seouler) McCoy. That is, it differs from *Palæchinus* in having *four* rows of ambulacral pieces and four double rows of pores, instead of *two* of each, as well as in having the ambulacral areas more or less sunken below the interambulacral fields. In the last character it agrees more nearly with *Melonites*, from which, however, it differs widely in having only *four* rows of ambulacral pieces and *four* double rows of pores instead of *ten* of each to each area. In the nature of its apical disc the species under consideration shows that in this type it agrees well in its general characters with *Melonites*. We also know, from a crushed specimen of *Oligoporus Danæ*, that the species of this group have the jaws very like those of *Melonites*. The question may therefore arise whether or not these differences in the *number* of pieces and pores of the ambulacra are of generic importance, and whether we ought not to regard them as only subgeneric and call our species *Melonites (Oligoporus) nobilis*. On the same grounds, however, we would have as good reason to regard both *Oligoporus* and *Melonites* as mere sections or subgenera of *Palæchinus*. We cannot, however, believe so important and constant a difference of less than generic value, no gradations being yet known in this character between *Oligoporus* and *Melonites* on the one hand, or between the former and *Palæchinus* on the other. It is true we yet only know one species of *Melonites*, but we now know two well marked species of *Oligoporus*, while there are eight or nine known distinct species of *Palæchinus*, all of which latter agree in having but two rows of ambulacral pieces to each area.

At the time we proposed the name *Oligoporus* we were not aware that Prof. Desor had designated a section (not a genus) of the family *Cidaridæ* by the name *Oligopores*. In case this should be regarded as a serious objection to our name *Oligoporus* we suggested, in the second volume of the Illinois Geological Reports, the name *Melonopsis* for this group instead; and if it should be adopted, the species here described would have to be called *Melonopsis nobilis*. The name *Oligopores*, however, from its different termination, we should think sufficiently distinct.

Locality and position.—Calhoun County, Illinois, from the Burlington division of the Lower Carboniferous series.

Description of Seven New Species of AMERICAN BIRDS from various localities, with a note on *Zonotrichia melanotis*.

BY GEO. N. LAWRENCE.

1. DENDRÆCA CAPITALIS.

Male. Front and crown of a deep rich reddish brown; back and smaller wing coverts yellowish olive-green, becoming more yellow on the rump; central tail feathers and the outer webs of the others dark olive-brown, edged the color of the back, the inner webs of all except the central tail feathers are yellow; the quill feathers and the larger wing coverts are blackish brown, the primaries and secondaries with margins the color of the back, the terti-

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aries and wing coverts edged with yellow; under lining of wings deep yellow; under plumage deep golden yellow, with conspicuous reddish brown stripes on the breast and sides; bill blackish brown, the under mandible paler below; feet light brown.

Second, third and fourth quills equal and longest, first intermediate between fourth and fifth.

Length $4\frac{1}{2}$ in.; wing $2\frac{1}{4}$; tail $2\frac{1}{16}$ th; bill $7\frac{1}{16}$ ths; tarsi $\frac{3}{4}$.

The female differs in wanting the brown cap, having in place of it a slight wash of that color, and in there being only a few faint stripes on the breast.

Habitat.—Barbadoes. Types in my collection, obtained by Mr. A. H. Alexander, of West Hoboken, N. J., who informed me that it is an abundant species and familiar in its habits.

Remarks. This beautiful species needs comparison only with *D. petechia*, and the bird from St. Thomas and St. Croix, referred to *D. ruficapilla*, Gm., by Prof. Baird, with a ?, see Rev. Am. Birds, pp. 199 and 201; it is smaller than either, and they do not agree in the wing formula; the present species appears to have a greater extent of yellow in the tail feathers.

It is the same species as a specimen spoken of by Prof. Baird (Rev. Am. Birds, p. 202) but not named, which was brought from Barbadoes in alcohol by Prof. Gill.

Apart from its smaller size, its clearly defined and deeply colored crown will distinguish it from all others.

2. TACHYPHONUS ATRICAPILLUS.

Front, entire crown and occiput black, sides of the head and the hind neck grayish-black; back and smaller wing coverts dark olive-green, the rump olive, tinged with ferruginous; tail brownish-black bordered with greenish-olive; middle and larger wing coverts black, with greenish olive margins; quills black, the primaries narrowly edged on the outer webs with greenish yellow, the secondaries with olive green; under wing coverts pale yellow; throat of a light brown intermixed with gray, and tinged with rufous; lower part of the neck and sides of the breast olive-green washed with ferruginous; breast and abdomen bright brownish ferruginous, becoming yellowish on the middle of the belly; under tail coverts black bordered with ferruginous; bill black, the under mandible whitish at base; tarsi and toes black.

Length (skin) 5 in.; wing $2\frac{1}{2}$; tail $2\frac{1}{4}$; bill $\frac{1}{2}$; tarsi $\frac{5}{8}$.

Habitat.—The Island of Trinidad.

Type in my collection; it was killed at Trinidad in the early part of the present year by Mr. A. H. Alexander, from whom I procured it. A person who accompanied him at the time, and was familiar with the birds of the Island, said it was a species he had never noticed before.

Remarks.—This does not resemble in plumage any other member of the genus, and I think is probably a male; the black crown and distinctly colored under plumage seem to preclude the probability of its being a female.

3. QUISCALUS FORTIROSTRIS.

Male. Black, with purplish steel blue lustre, uniform throughout the body, not changeable as in most other species; wings and tail greenish, bill and feet black.

Second quill longest, first between third and fourth; tail graduated, lateral feather one inch shorter than middle feathers; bill very strong, culmen regularly curved throughout, commissure sinuated.

Length 9 in.; wing $4\frac{1}{4}$; tail $4\frac{1}{8}$; bill from front $1\frac{1}{16}$ th; height of bill at base $7\frac{1}{16}$ ths; tarsi $1\frac{3}{16}$ ths.

The female is smaller, and the plumage, instead of being bluish, has a brownish cast of color.

Length 8 in.; wing $3\frac{5}{8}$; tail $3\frac{1}{4}$; bill $15\frac{1}{16}$ ths; tarsi $1\frac{1}{16}$ ths.

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Habitat.—Barbadoes. Types in my collection, obtained from Mr. A. H. Alexander, by whom they were killed on that Island.

Remarks.—This very distinct species comes nearest to *Q. lugubris*, Sw., in its dimensions, but is rather smaller; that species is more violaceous in luster, with longer and stouter legs, also a longer, straighter and more feeble bill, with the commissure straight; the bill of the new species is comparatively large, at the base being wider and fully one-third higher than that of *Q. lugubris*.

4. THAMNOPHILUS VIRGATUS.

Entire head, hind neck and all of the under plumage, of a grayish fuliginous color, blacker on the head and grayer below, with a broad stripe of pale ochreous white down the centre of each feather; these are clearer or nearly white on the head, and duller on the abdomen; back, tail and exposed portion of the wings cinnamon red; the inner webs of the quill feathers liver brown; the under wing coverts and inner margins of quills pale cinnamon; under tail coverts pale rufous; upper mandible black, the under whitish horn color; tarsi and toes black, claws whitish.

Length about 6 in.; wing 3; tail $2\frac{5}{8}$; bill about $\frac{5}{8}$; tarsi 1.

Habitat.—New Granada, Turbo. Collected by Lt. Michler. Type in Mus. Acad. of Nat. Sciences, Philadelphia.

Remarks.—In distribution of colors this species much resembles *T. palliatus*, but it is smaller and differs notably in the white markings throughout, being longitudinal; the crown in *palliatus* is immaculate, on which in the present species the stripes are strongly defined; the red coloring is paler and duller than that of *T. palliatus*.

From analogy I judge it to be a male, as the female of *T. palliatus* has a rufous crown.

The bill is injured by shot, the end being deficient; at first I was puzzled to know where to place it, but feel confident it is assigned its true position.

Analytical table of the Species of *BARIDIUS* inhabiting the United States.

BY JOHN L. LE CONTE, M.D.

According to the form of the antennæ the species before me may be divided into three principal groups, of which the second contains all the strongly pubescent species. The first group is the most numerous, and may again be subdivided by the presence or absence of the apical constriction of the prothorax. We will thus have the following scheme of arrangement.

A. Antennæ thick; 2d and 3d joints of funiculus equal.

a. Body nearly glabrous. Thorax not constricted near the apex. Sp. 1—8.

b. Body nearly glabrous. Thorax constricted near the apex. Sp. 9—22.

c. Body densely pubescent; thorax constricted near the apex. Sp. 23—25.

B. Antennæ slender; 2d point of funiculus longer than the 3d. Sp. 26—28.

A—a.

Intervals of elytra coarsely and irregularly punctured. 1.

“ “ with single rows of usually well marked punctures. 3.

“ “ with very fine inconspicuous punctures. 4.

1. Color black. 2.

Color bronze-black; prothorax longer than wide, gradually narrowed from base, rounded near the apex; dorsal carina very indistinct; beak stout, curved, moderately long, punctured. Long. 4.5 mm. Middle States. 1. subæneus.

2. More shining; prothorax not longer than wide, very slightly narrowed from base, much rounded near the apex; dorsal carina not apparent; beak stout, short, curved, punctured. Long 4.5 mm. Kansas (one specimen).

2. quadratus.

Similar to the last in size, form and sculpture, but the dorsal carina of the prothorax is well marked. Long 4.5 mm. Texas, Illinois. (Two specimens) 3. *carinulatus* Lec.

Less shining; punctures of elytra smaller and closer; prothorax more equally rounded on the sides, not broader than long, without dorsal carina; beak moderately long, stout, curved, punctured. Long. 4.5 mm. Kansas. (2 specimens)..... 4. *transversus* Say.

3. Black bronzed, shining; prothorax not longer than wide, very slightly narrowed from the base, much rounded near the tip, dorsal carina not obvious. (Resembles *B. subaneus*, but differs by the more full thorax, rather stouter form, and less irregular interstitial punctures of the elytra.) Long. 4—4.5 mm. Middle and Southern States..... 5. *tumescens*.

Smaller, black bronzed, shining; prothorax not longer than wide, more obliquely narrowed at tip and less rounded, dorsal carina not obvious; elytral striae less strongly punctured than in *B. tumescens*; intervals with rows of well marked or very fine punctures. Long. 3 mm.... 6. *confinis*.

Black bronzed, very shining, prothorax more sparsely punctured, slightly narrowed from the base, broadly and obliquely rounded near the tip; elytra more finely and less deeply striate, intervals wider, nearly smooth. Long. 2.5—3 mm. Louisiana..... 6. *aereus* Sch.

4. Bluish black, shining; prothorax not longer than wide, obliquely narrowed from the base, broadly rounded near the tip, punctures more distant than usual, dorsal carina not obvious; elytral striae scarcely perceptibly punctured, interstices nearly smooth, or with rows of very small punctures. Long. 4.25—4.75 mm. Middle and Southern States; five specimens. (Differs from *B. aereus* in color and in form of prothorax.) 7. *interstitialis* Say.

Black, shining; body narrow, prothorax longer than wide, sides broadly rounded in front, disc strongly punctured, without dorsal carina; elytra with a feeble oblique impression near the base, striae scarcely punctured; interstices with rows of very fine punctures. Long. 3.5 mm. California; two specimens; San Francisco..... 8. *macer* Lec.

A—b.

(The beak is longer and more slender than in A—a, and the thorax is transversely impressed near the tip, at least on the sides.)

Prothorax at base nearly as wide as the elytra. 1.

Prothorax at base narrower than the elytra; black, shining, very coarsely sculptured, elytral intervals not wider than the striae, and marked with single rows of deep punctures. Long. 5.5—6.5 mm. Illinois, Kansas, Arizona. 9. *striatus* Say.

1. Body nearly glabrous, color black, 2.

“ “ color bright brown, 8.

Body rather robust and convex, brownish black, more pubescent than usual; prothorax wider than long, gradually narrowed from the base and feebly rounded on the sides; elytral intervals with rather confused rows of somewhat transverse punctures. Long. 4—5 mm. Kansas. (Resembles in appearance a *Centrinus*). 10. *fartus*.

Body robust, black, more pubescent than usual, prothorax wider than long, feebly narrowed from the base, sides much rounded in front almost straight behind, very densely and coarsely punctured, with a slender carina; elytral intervals wider than the striae, densely and confusedly punctured. Long. 4 mm. California, 3 specimens. S. Diego..... 11. *densus* Lec.

2. Prothorax with distinct smooth dorsal line. 3.

“ without “ “ 6.

3. Elytral intervals usually not wider than the striae, with rows of very strongly marked punctures; body larger and wider. 4.

Elytral intervals wider than the striae, with single rows of finer shallow punctures; body smaller and narrower. 5.

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4. Prothorax gradually narrowed from the base, broadly rounded on the sides, more strongly towards the tip, coarsely punctured, the punctures more distant than the length of their diameters; (elytral intervals and striæ as in *B. striatus*; resembles *B. carinatus*, but the prothorax is distinctly impressed on the sides near the tips.) Long. 6 mm. Kansas and Wisconsin..... 12. *strenuus*.

Resembles the preceding in form and sculpture, but the punctures of the prothorax are larger and more distinctly umbilicated, and the sides more deeply constricted near the tip. Long. 5 mm. Penna., one specimen; Mr. Rathvon..... 13. *umbilicatus*.

Somewhat narrower and more regularly oval, prothorax gradually but more strongly narrowed from the base, and more obliquely rounded near the tip, less coarsely but somewhat more densely punctured than in *B. strenuus*; elytra with the intervals wider than the striæ, with rather confused rows of fine but well marked punctures. Long. 6 mm. Wisconsin, 1 specimen.

14. *subovalis*.

5. Punctures of prothorax more distant than their diameter, sides scarcely narrowed from the base, more broadly rounded near the tip, dorsal line wide; elytral intervals wider than the striæ with rows of distant large shallow punctures. Body less convex than usual. Long. 3.5 mm. New Mexico, 1 specimen..... 15. *distans*.

Prothorax more densely punctured, sides slightly narrowed from the base, more obliquely rounded near the tip and more distinctly constricted; elytra as in the preceding, but with a small white pubescent basal spot each side, and a few scattered white scale-like hairs. Long. 3—4 mm. Southern States, 3 specimens..... 16. *nigrinus* Say.

6. Body oval or elongate.

7.

Body broadly ovate, black shining, prothorax wider than long, strongly but not densely punctured, with very feeble dorsal carina, sides narrowed from the base, strongly rounded in front, and deeply constricted near the tip; elytral intervals wider than the striæ, with rows of small but deep punctures. Long. 2.5—3 mm. Middle States, 4 specimens..... 17. *ovatus*.

7. Body oval, black shining, prothorax not wider than long, strongly and densely punctured, without dorsal carina, sides narrowed and broadly rounded from the base, slightly constricted near the tip; elytral intervals broad, with rows of very fine but well marked punctures. Long. 2.5 mm. Middle States, 2 specimens..... 18. *pusillus*.

Body elongate oval, black, less shining, prothorax longer than wide, more coarsely punctured, punctures less distant than the length of their diameters, without dorsal carina, sides converging from the base, rounded only near the apex, which is feebly constricted; elytral intervals a little wider than the striæ, with rows of well marked punctures, disc feebly impressed obliquely each side behind the shoulder. (Of the same form as *B. macer*, but otherwise quite distinct. It differs remarkably from all the others of this division by the 2d joint of the funiculus of the antennæ being somewhat longer than the 3d, though much less conspicuously than in the species of division B.) Long. 3—3.5. Illinois and Kansas, 5 specimens... 19. *angustus*.

Also slender in form, black, not very shining, prothorax punctured as in the preceding, with the sides not converging from the base, but parallel, and more strongly rounded in front, tip feebly constricted; elytral intervals wider than the striæ, with rows of well marked punctures. (Resembles *B. macer*, but the thorax is more full in form, more densely punctured, and is feebly constricted at the tip; the beak is also longer and more slender.) Long. 2.5 mm. California, 1 specimen. San Francisco..... 20. *seriatus* Lec.

Somewhat less slender, bronzed black, shining, prothorax scarcely larger than wide, narrowed from the base and feebly rounded on the sides except 1868.]

near the tip, where it is more strongly rounded and slightly constricted disc, coarsely but more sparsely punctured than usual, punctures more distant than the length of their diameters; elytral striae impunctured, intervals much wider than the striae, with single rows of small punctures. Long. 3 mm. One specimen, Oregon..... 21. *sparsus*.

8. Body elongate, bright brown, very shining, prothorax rather sparsely punctured with a broad undefined smooth medial line; elytral uneven, with a transverse impression before the middle, an oblique one behind the humeri, and a very faint one behind the middle; striae feebly punctured, intervals much wider than the striae, with scarcely perceptible rows of very fine punctures. Long. 3 mm. Ohio and Illinois; (depredates on grape vine, producing the gall described by Mr. Walsh as *vitiscunus*.).... 22. *Sesostriis*.*

A—c.

The species contained in this group are of a slender form like some of those in b, and like them have an elongated moderately slender beak; the antennae are not quite so stout, though the 2d joint of the funiculus is not conspicuously longer than the 3d. The body beneath is densely clothed with depressed ash colored hairs, and is equally densely pubescent above. The prothorax is constricted near the tip, and the disc is strongly and densely punctured with a slightly elevated dorsal line. The species of this group have the last tarsal joint more elongated than in the other species of the genus, and the claws closely approximated, and somewhat connate at base; the males are also distinguished by the last ventral segment being armed at tip with a small tooth. These differences, combined with those of appearance, produced by the dense covering of hair, would indicate the propriety of separating them as a distinct genus.

Prothorax feebly constricted near the tip. 1.
 “ more strongly “ “ “ 2.

1. Small, pubescence less dense, prothorax longer than wide, feebly narrowed in front, slightly rounded on the sides, and feebly constricted near the tip. without basal glabrous spots. Long. 3 mm. Maryland, 1 spec..23. *plumbeus*.

Larger, pubescence very dense, prothorax very little longer than wide, gradually narrowed in front, slightly narrowed on the sides, and feebly constricted near the tip, with three basal glabrous black spots extending upon the scutellum and base of elytra. Long. 4.5 mm. Atlantic States, abundant..... 24. *trinotatus* Say.

2. Larger, pubescence dense, prothorax scarcely longer than wide, subtrapezoidal gradually narrowed from the base, sides nearly straight, suddenly rounded near the tip and more strongly constricted, coarsely and densely punctured, distinctly carinated, marked with basal spots as in the preceding. Long. 4.5—6 mm. California, also at Cape San Lucas, 3 spec.

25. *mucoreus* Lec.

B.

The species of this division have the beak longer and more slender than those of A, and the antennae are much thinner, the 2d joint of the funiculus is much longer than the 3d, thus showing an approach to *Centrinus*, which these species resemble in their form; the body is nearly glabrous, and the prothorax is constricted near the tip.

The three species before me may be distinguished as follows:

Body black, somewhat shining, prothorax strongly punctured, without dorsal carina, gradually and strongly narrowed from the base, and rounded on the sides; elytral intervals with single rows of strongly marked punctures, humeri scarcely wider than the base of prothorax. Long. 3.5 mm. Kansas, one specimen. 26. *nasutus*.

* Vide Herodotus, Euterpe, cap. 102.

Body black, shining, prothorax as in the preceding, elytra at humeri distinctly wider than base of prothorax, intervals with confused fine punctures. Long. 3.5—4.5 mm. Southern States, 4 specimens. (Rather stouter in form than the preceding, and resembling almost exactly *B. farcus*, but quite different by the antennæ and beak.)..... 27. *ibis*.

Body brown, shining, prothorax longer than in the preceding and less rounded on the sides, more densely punctured with a faint dorsal carina; elytra at humeri distinctly wider than base of prothorax, intervals with confused fine punctures. Long. 3.5 mm. Georgia and Illinois, 4 specimens.

28. *scolopax* Say.

Bibliography.

- B. carinulatus* Lec. Proc. Ac. Nat. Sc., Phila., 1858, 79.
B. transversus Say. Curc. 18; ed. Lec. i, 282.
B. aereus Sch. Curc. viii, 141.
B. interstitialis Say. Curc. 18 and 26; ed. Lec. i, 282, 295; Journ. Acad. N. S. Ph. iii, 314; ed. Lec. ii, 176; Sch. iii, 684; viii, 149. In well preserved specimens small scale-like hairs are perceived in the rows of punctures on the elytral intervals.
B. macer Lec. Rep. Pac. R. R. Expl. xi, MS. 58.
B. striatus Say. Curc. 17; ed. Lec. i, 281.
B. densus Lec. Proc. Ac. Nat. Sc., Phila., 1859, 79.
B. nigrinus Say. Curc. 31; ed. Lec. i, 295. Sch. Curc. iii, 691; viii, 154.
B. seriatus Lec. Rep. Pac. R. R. Expl. xi, MS., 58.
B. trinotatus Say. Curc. 7; ed. Lec. i, 280; *vestitus*† Sch. Curc. iii, 718.
B. mucoreus Lec. Proc. Ac. Nat. Sc., Phila., 1858, 79.
B. scolopax Say. Curc. 26; ed. Lec. i, 295; Sch. Curc. iii, 699. I do not know for what reason Schönherr has referred this species to his first division; Boheman, in the description, mentions the antennæ as *minus crasse*, which in fact they are.

Species unknown to me.

- B. T-signum* Sch. Curc. viii, 154.
B. anthracinus Sch. Ibid, iii, 727. Seems to be near 28. *ibis* Lec.
B. confertus Sch. Curc. iii, 728.
B. californicus Motsch. Bull. Mosc. 1845, ii, 372.
B. pubescens Uhler, Proc. Ac. Nat. Sc., Phila., 7, 417 belongs to *Centrinus* and is *C. pistior* Sch. = *Balaninus pistior* Germ.

The GYRINIDÆ of America, north of Mexico.

BY JOHN L. LE CONTE.

Species of this family are found in every part of the United States and contiguous northern regions, usually in large colonies; from their whirling motion of the surface of the water they are popularly known as *whirligigs*, and, on account of the agreeable fragrant odor of some of the species, as *apple-bugs*.

There is a remarkable uniformity of appearance in the species of each genus, which renders their definition and recognition somewhat difficult; for this reason, notwithstanding the very curious structural characters displayed in their organization, which are detailed in all systematic works, they are not favorites with collectors, and many of our species have remained unnamed.

Three genera are represented in our fauna:

Last ventral segment depressed, rounded at tip:

Scutellum distinct: labrum transverse..... *Gyrinus*.

Scutellum invisible; labrum transverse..... *Dineutus*.

Last ventral segment elongated, conical:

Scutellum invisible; labrum prominent.... *Gyretes*.

DINEUTUS McLeay.

CYCLINUS Kirby.

The species of this genus are of larger size than those of the other two, and of less convex form; the elytra are marked with nine very slightly impressed, sometimes almost invisible, striæ or furrows; the labrum is rounded in front and ciliated, the scutellum is invisible, and the mesosternum is sparsely but coarsely punctured in front.

In the males the front tarsi are moderately dilated, and clothed beneath with feathery papillæ densely arranged in transverse lines, forming an elongated narrow brush; in *D. sublineatus*, *emarginatus*, *serrulatus*, and probably in *carolinus*, the front thighs of the male are dilated near the knee, on the anterior margin, into a more or less developed tooth, varying somewhat in form, according to the individual degree of development, but always well marked; in *D. vittatus*, *discolor* and *assimilis*, the tooth is entirely wanting.

The hind margin of the elytra is not toothed, nor strongly serrate, in any of our species, which may be divided into two groups as follows:

A. Sutural angles of elytra rounded.

B. Sutural angles of elytra well defined, sometimes slightly prolonged.

A.

14.5—15.5 mm. Black or black-bronzed, very shining; elytra usually with a brighter bronzed vitta; striæ faint; sutural angle very much rounded; under surface dark chestnut-brown, middle and hind legs pale..... 1. *vittatus*.

15.5—16.5 mm. Dark olive above, not very shining; elytral striæ distinct; sutural angle moderately rounded; under surface black; middle and hind legs iridescent, with the tibiæ and tarsi brown..... 2. *sublineatus*.

9—12.5 mm. Black, or black-bronzed, not very shining; elytral striæ very faint; sutural angle very much rounded, apical margin flat; under surface dark brown or blackish, slightly bronzed; middle and hind legs, narrow margin and tip of abdomen paler, nearly testaceous..... 3. *emarginatus*.

10.5 mm. Black-bronzed, more shining; elytral striæ very faint; sutural angle less strongly rounded; apical margin narrowly reflexed; under surface brown; middle and hind legs, broad margin and tip of abdomen pale.

4. *carolinus* n. sp.

B.

a. Body brown or testaceous beneath, oval, narrowed in front; hind margins of elytra very feebly sinuate; sutural angle of ♂ not, of ♀ very feebly prolonged.

12.5 mm. Body broadly oval, narrowed in front; upper surface black, slightly bronzed, shining; lateral margin of elytra broadly flattened; apical edge very finely serrate..... 5. *serrulatus* n. sp.

11—12.5 mm. More convex and narrower, narrowed in front; upper surface black-bronzed, rarely black, shining; lateral margin of elytra less broadly flattened; apical edge entire..... 6. *discolor*.

b. Body beneath black, slightly bronzed; middle and hind feet, and frequently sides and tip of the abdomen, pale; elytra distinctly sinuated near the tip in the ♀, and sutural angle very prominent in that sex.

10.5—12 mm. Black, usually slightly bronzed, ♂ more shining than the ♀; middle and hind legs testaceous; margin and tip of abdomen pale; elytra feebly striate, sparsely and finely punctulate; (♂ with the elytra not sinuate near the tip, feebly sinuate at the tip; sutural angle slightly prominent; ♀ deeply sinuate on the side near the tip; margin elevated at the sinuosity, sinuate again at the tip, with the sutural angle very prominent.).. 7. *assimilis*.

[Dec.

Bibliography and remarks.

1. *D. vittatus* Aubé, Hydroc. 768; *Gyrinus vitt.* Germ. sp. nov. 32; *Cyclous opacus* Mels., Proc. Acad. Nat. Sci. Phila. ii, 29 (faded specimens). Middle and Southern States, not rare.

2. *D. sublineatus* Aubé, Hydroc. 775; *Gyrinus subl.* Chev., Col. Mex. cent. i; ♀ *D. integer* Lec., Proc. Acad. Nat. Sci. Phila. vii, 221. Arizona and Lower California.

3. *D. emarginatus* White, Brit. Mus. Cat.; *Gyrinus emarg* Say, Trans. Am. Phil. Soc. ii, 108; ed. Lec. ii, 519; *D. americanus*† Aubé, Hydroc. 777 (nec. Linn.) Abundant in the middle and northern States; for remarks on *Gyrinus americanus* Linn., showing its probable identity with the West Indian *D. metallicus* Aubé, see the note of Dr. Schaum in Stettin Ent. Zeit. 1848, 337.

4. *D. carolinus*. I have seen but two ♀ specimens, collected in South Carolina; it closely resembles the preceding, but is more shining, and the apical margin of the elytra, instead of being flat, is very narrowly reflexed.

5. *D. serrulatus*. Middle and Southern States. I have seen but two ♂ ♀ specimens of this species, which resembles in form *D. assimilis*, but is easily distinguished by the fine serration of the apical margin of the elytra, the sutural angle less prominent, the lateral flattened margin broader and more reflexed, the posterior sinuosity of the elytra of the female much less, the striae of the elytra less visible, and finally by the front thighs of the male being armed with a strong sharp tooth.

6. *D. discolor* Aubé, Hydroc. 784; *Cyclous labratus* Mels. Proc. Acad. Nat. Sci. Phila. ii, 29. Abundant from Canada to Louisiana, and from Maine to Kansas; easily known by its narrower form and pale ferruginous under surface; the front thighs of the male are not toothed.

7. *D. assimilis* Aubé, Hydroc. 778. *Cyclinus ass.* Kirby, Fauna Bor. Am. iv, 78. *Gyrinus americanus* Say, Trans. Am. Philos. Soc. ii, 107; ed. Lec. ii, 519. Our most abundant species, usually known as *apple bug*; extends from Lake Superior to Texas, and from Maine to Kansas. The front femora of the male are not toothed.

GYRINUS Linn.

"The species of this genus, as at present defined, are peculiar in having 11 rows of punctures on each elytron, and an oval transverse figure limited by punctures near the tip. The legs are always ferruginous, or testaceous. Usually two frontal impressions and two thoracic transverse impressions are well defined, but they are not equally evident in every individual, and are sometimes entirely obliterated.

"For the better definition of the species it must be observed that in those in which the upper surface has a shining metallic gloss, the color becomes sometimes black, and sometimes in part dark brown; in the same proportion the black color of the breast and the abdomen varies to ferruginous. The obliteration of the rows of punctures next the suture is of doubtful specific value, as is also the size of the specimens, both of which characters are subject to great variations."—Zimmermann, MS. To this I may add that the frontal impressions are of no value in distinguishing species.

On account of the close resemblance between the species, it has been very difficult to identify them by the descriptions thus far published, and, as will be seen in the bibliography and remarks, the determinations are frequently different in each of the standard collections which have been independently formed in this country.

My own determinations are in some instances at variance with those of Dr. Zimmermann and Dr. Harris, and I hope may be sustained by reference to the types preserved in European collections; but at all events the possession of a much larger number of specimens, from more widely separated localities, has 1868.]

given me greater advantage in distinguishing and defining the forms to which specific names must, in the present condition of science, be given.

The species before me may be arranged in the following groups, the mesosternum being of normal form in all except *pectoralis*:

A. Scutellum flat:

a. Under side margin of prothorax and epipleuræ testaceous.

b. Under side margin of prothorax and epipleuræ metallic black.

B. Scutellum finely but distinctly carinate:

(Under side margin of prothorax and epipleuræ testaceous.)

A—a.

* Under surface uniform testaceous, or brown.

6—6.75 mm. ♀. Elongate oval, polished black, more or less bronzed; punctures of the elytral rows approximate, rather fine; tip much rounded, outer angle not distinct..... 1. *confinis* Lec.

6 mm. ♀. A little less elongated, polished black, not bronzed; punctures of the elytral rows stronger, and equally closely placed. 2. *fraternus* Couper.

4.5—5 mm. Smaller, not very elongate, polished black; margins and sides broadly bronzed; punctures of outer elytral rows stronger and moderately approximate; abdomen sometimes dark at the middle..... 3. *limbatus* Say.

5.5 mm. ♀. More elongated, uniformly black bronzed; punctures of elytral rows rather strong, moderately approximate..... 4. *aeneolus*, n. sp.

4.5—5 mm. ♂. Of the same form, color and sculpture as *limbatus*, scarcely bronzed and a little wider; the ventral segments of the abdomen in mature specimens are darker brown, the punctures of the elytral rows more approximate, with the last segment paler..... 5. *dichrous*, n. sp.

5.25 mm. ♂. More elongate, strongly attenuated before and behind, and more elevated at the middle than usual, black, highly polished, broadly bronzed on the sides, but not on the suture or reflexed margin of the elytra; rows composed of larger bronzed punctures not very approximate, becoming coarser at the sides; tip truncate, slightly rounded; outer angle not very obvious; body beneath and legs ferruginous. (Easily distinguished by its more compressed convex form and coarser punctures.)..... 6. *elevatus*, n. sp.

5.5—6.5 mm. Elongate oval, more narrowed in front, black, highly polished; margins and sides slightly bronzed; tip of elytra more concave than usual; (margin not interrupted); rows of elytral punctures bronzed, well marked, approximate; under surface uniform reddish-brown. (Resembles *confinis*, but is much larger and more narrowed in front, from the base of the elytra)..... 7. *consobrinus* Lec.

5—6.5 mm. Of the same form, color and sculpture as *consobrinus*, but a little broader and with the reflexed margin of the elytra interrupted near the tip by a small flattened space, and the tip less rounded..... 8. *plicifer* Lec.

6.5—7 mm. Oval, less elongate, black, very highly polished, iridescent; margins and sides bronzed; rows of punctures of elytra well marked, approximate; under surface reddish-brown, sides and tip of abdomen a little paler. (A beautiful species, easily known by its larger size and more brilliant iridescent surface; in one specimen the under surface is nearly black.)

9. *ventralis* Kirby.

6.5 mm. Similar in size, color and sculpture to *ventralis*, and equally brilliant, but somewhat narrower in form, with the tip of the elytra more suddenly truncate, less rounded and with the outer angle obtuse, only slightly rounded and quite distinct..... 10. *aquiris*, n. sp.

**Trunk dark piceous; abdomen with tip and lateral spots pale.

6—6.75 mm. More elongate than usual, black, highly polished, slightly iridescent; margins bronzed; punctures of elytral rows bronzed, fine, well marked, approximate; tip more rounded than usual..... 11. *maculiventris*, n. sp.

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*** Trunk black bronzed, or piceous bronzed; tip of abdomen reddish-brown.

7.25—8 mm. Oval, less elongated, black, shining, but not polished, very minutely punctulate or rugose; margins bronzed; tips of elytra more concave than usual; punctures of rows well marked, approximate. (Easily distinguished by the fine punctuation of the upper surface and the bronzed color beneath.)..... 12. *affinis Aubé*.

A—b.

a. Body oval in form, regularly convex.

* Anterior margin of mesosternum regular in form.

5.25—5.75 mm. Oval, equally attenuated at each end, black, shining, highly polished; margins and sides bronzed; elytra with rows of deeply impressed, bronzed, coarse punctures, so approximated that the outer striae appear impressed; tip broadly subtruncate, feebly rounded; outer angle distinct.

13. *parvus Say*.

5.5—6.5 mm. Oval more elongate, nearly equally narrowed before and behind, black, shining, highly polished; margins and sides bronzed; elytral rows composed of approximate bronzed punctures, the outer ones a little stronger than the inner; tip of elytra strongly rounded, outer angle not distinct; last ventral segment sometimes dark reddish-brown; sides of prothorax slightly rounded.

α. Apical oval of punctured curve of elytra composed of large, coarse punctures.

β. Apical oval curve composed of very fine punctures, almost obliterated; middle and hind legs darker than usual..... 14. *picipes Aubé*.

5.25 mm. Smaller and a little narrower than *picipes*, of a less shining black, feebly bronzed, more brilliantly at the margins and sides; elytral rows composed of less approximate bronzed punctures, the outer ones a little stronger than the inner; tip of elytra strongly rounded; outer angle not distinct; apical oval curve composed of distant, well marked punctures; middle and hind legs darker than usual..... 15. *opaculus Sahlb*.

7 mm. Larger and a little stouter, black, highly polished and with bluish reflections; margins and sides bronzed; elytral rows composed of fine bronzed, very closely approximated punctures, outer rows distinctly impressed; tip of elytra broadly truncate, feebly rounded; outer angle distinct, though obtuse and rounded; legs ferruginous, under surface black; last ventral segment very dark brown..... 16. *borealis Aubé*.

6 mm. Of the same form, color and sculpture as the preceding, but still more highly polished; the elytra are still less rounded at tip, and the punctures of the rows are less fine and less approximate, and the outer rows, though a little stronger, are not impressed; the under surface is black, the last ventral segment ferruginous in one, but very dark brown in two other specimens; the legs ferruginous..... 17. *pernitidus*, n. sp.

6—7 mm. Of the size and form as *borealis*, but above black, less highly polished and not at all bronzed; tip of elytra more rounded, with the outer angle less distinct; the rows are composed of small but less approximate punctures, and the outer rows, though stronger, are not impressed; the under surface is black, feebly bronzed; the legs ferruginous, and the last ventral segment dark brown..... 18. *lugens Zim*.

5—6 mm. Smaller, more elongate, black bronzed both above and beneath; upper surface not highly polished; elytra with the tip broadly but not strongly rounded; outer angle not distinct; rows composed of not very fine, less approximate punctures, outer rows but little stronger than the inner ones; legs and last ventral segment ferruginous. (Resembles in form, size and sculpture *G. opaculus*, but is more bronzed above and beneath, the legs and last ventral segment are paler and the inferior pair of eyes are larger.... 19. *aualis Say*.

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** Front margin of mesosternum trilobed, with an oblique impression each side.

5—6 mm. Oval, shining black, highly polished, margins and sides bronzed; elytra at tip moderately rounded; outer angle not distinct; rows composed of bronzed, approximate punctures, outer rows not stronger than the inner ones; beneath black, slightly bronzed; legs ferruginous, thighs darker. (Of the same size and form as *G. limbatus* and *consobrinus*, but easily recognized by the very peculiar form of the mesosternum.)..... 20. *pectoralis*, n. sp.

b. Body broader, subovate, more suddenly convex at the middle and obliquely declivous before and behind.

5.5 mm. ♀. Uniform black, bronzed above; elytra with the tip broadly truncate, feebly rounded, outer angle distinct but rounded; rows composed of fine approximate punctures, outer ones not stronger, lateral margin more broadly reflexed than usual. Beneath black, with slightly metallic reflection, last ventral segment dark brown, legs ferruginous; mesosternum feebly channelled for its entire length..... 21. *gibber* *Zim.*

B.

4—4.5 mm. Elongate oval, bluish black, not highly polished, sides broadly bronzed; elytra with the tip truncate, feebly rounded, outer angle somewhat distinct, though rounded; rows composed of approximate bronzed punctures, the outer ones stronger than the inner; under surface, inflexed margins and legs ferruginous, anterior ventral segments sometimes darker; mesosternum with a very deep median furrow..... 22. *minutus* *Linn.*

3.5—4.5 mm. Of the same size and form as *minutus*, but a little narrower and more convex and of a more dull black color, though slightly bronzed at the sides; prothorax more rugose, rows of the elytra composed of more approximate punctures, and especially distinguished by the mesosternum being but feebly channelled in front, with a large elongate posterior fovea; under surface always ferruginous yellow.

23. *rockinghamensis* *Zim.*

Bibliography and Remarks.

1. *G. confinis*. Similar in form to the Californian *G. consobrinus*, but less polished, with a slight bronzed color over the whole upper surface, more brilliant at the suture and margins. Abundant at Lake Superior. I have also several specimens from the interior of Oregon or Montana.

2. *G. fraternus* *Couper*, Canadian Naturalist, 2d ser. ii, 60. Canada and Lake Superior; for types I am indebted to Mr. W. Couper, late of Quebec, but now of Ottawa. Is of the same size as the preceding, but a little more robust, and easily distinguished by the entire absence of bronzed lustre on the upper surface, even at the suture and margin.

3. *G. limbatus* *Say*, Trans. Am. Phil. Soc. ii, 109; ed. Lec. ii, 520. Canada and Lake Superior. In one specimen the suture is not bronzed, and in one the abdomen is dark brown at the middle. I received from the late Dr. T. W. Harris a specimen of this species from Western New York, as No. 1642 of his collection, *G. analis* *Say*, and in Dr. Zimmermann's collection it is named *G. limbatus* *Say*. From the former it differs by the under surface being ferruginous. It is quite possible that the determination of Dr. Zimmermann is correct, and although I have seen no specimens from Georgia and Florida, the locality mentioned by *Say*, I have no other which agrees so nearly with his description, or which resembles in appearance *G. analis*, with which he compares it.

4. *G. aeneolus*. One specimen, Illinois, Mr. Willcox. This species is easily known by the uniform and tolerably brilliant bronze color of the upper surface, which, with the more elongate form and ferruginous under surface perfectly defines it.

5. *G. dichrous*. New England. I received this species from Dr. Harris as bearing the name in the Melsheimer collection; specimens under the same name are contained in Dr. Zimmermann's cabinet, now in possession of Dr. Samuel Lewis. It closely resembles *G. limbatus*, but is a little more robust, and not bronzed on the margin and suture.

6. *G. elevatus*. One specimen, New York, No. 1829 Harris' collection. Very distinct by its more convex elevated body, more strongly attenuated at each end, and by the much coarser punctures of the outer elytral rows.

7. *G. consobrinus* Lec. Ann. Lyc. Nat. Hist. New York, v, 209. Abundant in California, at San Francisco, Mendocino, &c.

8. *G. plicifer* Lec., *ibid.* California, not abundant. Easily known by the reflexed edge of the elytra being interrupted near the tip by a slight depression, so that the appearance of a small fold is produced, extending from the small depression to the apical truncation. I received from Mr. A. Murray a smaller specimen, which agrees sufficiently with the description of *G. marginiventris* Motsch., Bull. Mosc. 1859, ii, 174, to induce me to place the latter as a synonym.

9. *G. ventralis* Kirby, Fauna Bor. Am., iv, 80; Aubé, Hydroc. 672. A common species from Pennsylvania, northward to Lake Superior; in the Zimmermann collection it is determined as *G. ventralis* Kirby, but although agreeing in other respects with Kirby's description it seems generally too large to be referred to the latter, which is compared with *G. aeneus*, a much smaller species. Specimens occur in which the under surface is chestnut brown, with the inflexed margins, the sides and tip of the abdomen and the legs paler ferruginous; *G. limbatus* ‡ Aubé, 670 (nec Say), is considered by Dr. Zimmermann to belong to this species.

10. *G. aquiris*. Middle States; differs from the preceding in the narrower form, and more squarely truncate elytra; the under surface is darker brown, in one specimen nearly black, with the inflexed margins, sides and tip of abdomen, and feet paler ferruginous; it is less elongate than the next species and the pale color of the sides of the ventral segments is not arranged in spots but is diffused. On account of the more sudden truncation of the tips of the elytra I would refer *G. limbatus* ‡ Aubé to this, rather than to the preceding species.

11. *G. maculiventris*. Abundant at Lake Superior; one specimen from Montana; more elongate than usual, and easily recognized by the dark brown color of the under surface, with well marked pale triangular spots each side on the ventral segments.

12. *G. affinis* Aubé, Hydroc. 669. New York to Lake Superior; I have also two specimens from Middle California. Our largest species, easily distinguished by the upper surface of both sexes, (not alone of the ♂ as mentioned by Mr. Aubé), being covered with very fine lines, producing under a high lens an aciculate appearance. I received from Dr. Harris one specimen as No. 819 var. *G. limbatus* Say., *teste* Say, but its much larger size, as well as the dark bronzed color of the greater part of the under surface, completely separate it from that species.

13. *G. parvus* Say, Trans. Am. Phil. Soc., iv, 448; ed. Lec. ii, 562; Aubé, Hydroc. 701. Two specimens from Texas agree with the descriptions of this species; they differ from the other small species having the under surface black bronzed, by the more coarse punctures of the elytral rows, the outer ones of which become, by the approximation of the punctures, slightly impressed.

14. *G. picipes* Aubé, Hydroc., 694; Mannh. Bull. Mosc. 1843, 223; *ibid.*, 1853, ii, 164. Alaska and Oregon. I have three specimens collected in Labrador, one of which does not seem to differ from the types from Alaska kindly sent me by Baron Chaudoir and Count Mnizech; in one of the specimens 1868.]

mens the inflexed margins are slightly tinged with dark reddish brown, as mentioned in the remarks of Mannerheim under the second reference. Two specimens (♂ ♀) from Labrador, are much smaller, only 5.25 mm. long, but do not seem to differ in any other respect; var. b, of the last reference, is probably a distinct species, but I have seen no specimen to correspond with it.

α. A race of this species is represented by four specimens from Lake Superior, which resemble in appearance the typical *G. picipes*, but differ only by the apical crescentic oval curve of the elytral being composed of larger punctures. This differs from the others of the same group (except *pernitidus*) by the more elongate form, more highly polished surface, and more brilliantly bronzed suture, margin and punctures; *G. pernitidus* is more highly polished, but has the elytral rows composed of less approximate punctures; *G. borealis* is larger and stouter than the two species in question, though otherwise resembling them very closely.

15. *G. opacus* Sahlberg, Ins. Fenn., 47; Schiödt, Naturhist. Bidrag. Grönland, p. 54; *G. æneus* Aubé, Hydroc. 690, (fide Redtenbacher). Mr. Drewsen, of Copenhagen, has kindly sent me three specimens of this species, with a very complete series of the other Coleoptera of Greenland. *G. æneus* Kirby, Fauna. Bor. Am. iv, 80, must according to the size given (2 4-5th lin.) be a much larger species, which is unknown to me, unless it be *G. borealis*.

16. *G. borealis* Aubé, Hydroc. 692. New York to Lake Superior; the distinguishing characters of this have been sufficiently pointed out in the remarks upon other species.

17. *G. pernitidus*. The type of this species is a single ♀ from Georgia; with it I have associated two other females sent me by Dr. Harris, as No. 242, *analis*? Say; one of the specimens agrees perfectly with the type, while in the other the punctures of the rows of the elytra are much less approximate, the inner rows less strongly marked, and the last ventral segment nearly black, instead of ferruginous, as in the type; it is probably a distinct species, and is perhaps a small specimen of *G. Sayi* Aubé, 698, which is otherwise unknown to me.

Dr. Zimmermann determined this as *G. borealis*, but the size given in the description of Mr. Aubé (7 mm.) represents a larger species, and I have accordingly referred it to the preceding.

18. *G. lugens* Zimm. MS. New England and Lake Superior; easily known by the larger and stouter form, similar to *G. borealis*, but not at all bronzed above.

19. *G. analis* Say, Trans. Am. Phil. Soc., ii, 108; ed. Lec. ii, 520; *ibid.* iv, 448, ed. Lec. ii, 562; Aubé, Hydroc. 697. Louisiana to Lake Superior, easily distinguished by the upper surface uniformly bronzed; the under surface black bronzed, with the last ventral segment and feet ferruginous; the form is narrower than in the other species of this group, except *G. opacus*, which is, however, less oval and more narrowed behind.

20. *G. pectoralis*. Lake Superior and Hudson Bay Territory, (Fort Liard).

21. *G. gibber* Zimm., MS. I have seen but the single specimen of this peculiar species found in North Carolina by Dr. Zimmermann, from whose MS. I have translated the description; this unique specimen was kindly given to me by Dr. Samuel Lewis.

Bibliography and remarks.

22. *G. minutus* Fabr., Syst. El. i, 276; Kirby, Fauna Bor. Am. iv, 81; Aubé, Hydroc. 683. Lake Superior, abundant. I have omitted much of the European synonymy of this species, as not applicable to our fauna; it is, however, necessary to observe that the fine carina of the scutellum which distinguishes this and the next, so far as I know, from all others of the genus

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is not mentioned by the authors above cited, nor by Redtenbacher; but attention is called to it in the description of Thomson, Skandiv. Coleoptera, ii, 117.

23. *G. rockinghamensis* Zimm., MS. Dr. Zimmermann mentions in his MS. that he found this species in schools of several thousands, in ponds at Rockingham, North Carolina. I have translated the description from his notes.

Species not identified.

G. impressicollis Kirby, Fauna Bor. Am. iv, 79. Mr. Adam White, B. M. Cat. 45, refers this to *G. borealis* Aubé, but the great size, unless an error of print, (4 lines, = 8.3 mm.) renders such reference very improbable.

G. Sayi Aubé Hydroc. 698. See remarks under No. 17.

G. fuscipes Motsch. Bull. Mosc. 1859, ii, 173. California; perhaps *G. consobrinus* Lec.*

GYRETES Brullé.

1. *G. sinuatus*, elongate oval, very convex, dark bronzed, very shining; sides of prothorax and elytra densely punctured and pubescent, punctures reaching the suture; tip of elytra broadly and obliquely truncate, outline of the truncation very slightly but distinctly sinuate, outer angle distinct, slightly prominent, inflexed margins ferruginous; body beneath and legs ferruginous, breast and base of abdomen darker. Long. 6 mm. Lec. Ann. Lyc. Nat. Hist., New York, v, 210.

Abundant in the Colorado River, near Fort Yuma, California.

2. *G. compressus*, still more elongate, and more convex than the preceding, and more narrowed in front than behind, dark bronzed, shining; sides of prothorax and elytra densely punctured and pubescent, punctures not quite reaching the suture; tip broadly and obliquely truncate and very feebly sinuate, outer angle obtuse, distinct, slightly prominent, inflexed margins black; body beneath dark brownish red, feet and tip of abdomen paler. Long. 6.75 mm. Lec., New Spec., North Am. Col., (Smith's Inst.) 23.

One specimen collected at Quincy, Illinois, by Mr. Willecox.

Notes on the Species of AGONODERUS, BRADYCELLUS and STENOLOPHUS inhabiting America north of Mexico.

BY JOHN L. LE CONTE, M. D.

The final demolition of the genus *Acupalpus* Dej. seems to have been accomplished by Baron Chaudoir, in his recent notes upon North American Carabidae,† by the reference of most of the species contained in my third division of *Stenolophus*‡ to *Agonoderus*. In fact, his suggestion is so perfectly natural, that it is strange that the resemblance in form and sculpture, and in the proportion of the joints of the hind tarsi, with the absence of sexual characters in the front tarsi, did not long since cause these species to be placed in the proper position to which he has assigned them.

In reviewing the specimens of my collection with the aid of the remarks of my learned friend, I have found such resemblances in form between the species

* Mr. Uhler has sent me a portion of a large school of *Gyrinus*, collected in Charles River, near Cambridge, Mass., which shows that in some cases at least the species do not live apart. An examination of all the individuals captured has given me the following results:—

<i>G. limbatus</i> , 4♂, 5♀.	<i>G. fraternus</i> , 2♂, 2♀.
<i>G. dichrous</i> , 5♂, 6♀.	<i>G. picipes</i> ? (race), 5♂, 3♀.
<i>G. confinis</i> , 12♂, 7♀.	<i>G. lugens</i> , 18♂, 4♀.

I have observed at Lake Superior, however, that the species are generally not found intermixed.

† Revue et Mag. de Zoologie, 1868.

‡ Vide List of Coleoptera, North Am., p. 13.

of the three genera above named, that a brief synopsis of the distinguishing characters of those which I have investigated seems to me to be useful for the proper naming of the specimens contained in local cabinets.

I may also add that the determinations of Baron Chaudoir, who is the fortunate possessor of the Dejeanian types, must be taken as conclusive, regarding the species of that author; the original descriptions were unfortunately defective in some respects, and my recognition of his species was therefore erroneous.

In all the species mentioned in this synopsis, except *Bradycellus dichrous*, *vulpeculus* and *autumnalis*, the marginal line limiting the bead of the prothorax is obliterated for a greater or less extent at the middle of the base, but in those three species it is entire, as in the true *Harpali*, with which, perhaps, they should more properly be associated.

AGONODERUS Dej.

In the species of this genus the emargination of the mentum is less semicircular in outline than in *Stenolophus*, but equally destitute of any vestige of a tooth; the sides of the emargination are more oblique and the bottom therefore narrower, like a broadly rounded angle; the body is rather stouter and more convex, the joints of the antennæ thicker, the hind tibiæ and tarsi less slender, the joints 1—4 of the latter diminishing in length less rapidly, the front tibiæ stouter and more strongly spinose near the tip, and finally the front tarsi are alike in form in both sexes and in the more slender species thinly clothed with a few papillæ.

Our species, all but one of which, as far as known, are represented in my collection, diminish gradually in size, and may be grouped as follows, the dorsal puncture being wanting only in *A. infuscatus*:

A. Body stouter and more convex: prothorax transverse, quadrate-oval.

a. Hind angles of prothorax very much rounded.

7—8.5 mm. Pale yellow above; prothorax with two discoidal spots; scutellar stria long; elytra with two dark stripes separated by the sutural interval; dorsal puncture distinct..... 1. *lineola*.

6.5 mm. Dark testaceous or piceous, narrow margin of prothorax and broader one of elytra pale; scutellar stria shorter; dorsal puncture wanting..... 2. *infuscatus*.

b. Prothorax nearly quadrate; hind angles obtuse, slightly rounded; sides less rounded.

8 mm. Pale yellow; head behind the eyes black, with an occipital round yellow spot; prothorax with two discoidal oval black spots; base finely and not densely punctured; elytra with two dark stripes, as in *lineola*; scutellar stria long. (Differs from *lineola* chiefly by the form of the prothorax.) California, and Nevada..... 3. *maculatus*, n. sp.

B. Body more elongate, less convex; prothorax scarcely wider than long; subtrapezoidal, being more or less distinctly narrowed behind; elytra with one dorsal puncture.

a. Larger species; color pale; elytra with a wide black stripe, divided by the suture; disc of prothorax frequently with a large black spot; head always black.

5.5—6 mm. Hind angles of prothorax rounded; scutellar stria long.

4. *commis*.

5.5—7 mm. Hind angles of prothorax scarcely rounded; scutellar stria short..... 5. *pallipes*.

7 mm. Sides of prothorax subsinuate behind; hind angles rounded: scutellar stria short? (interrupted in the only specimen I have seen); hind tarsi stouter than in *pallipes*. California..... 6. *rugicollis*.

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b. Smaller species.

* Head black; scutellar stria distinct.

3.5—4 mm. Prothorax pale; hind angles much rounded; basal impressions with a few coarse punctures; elytra with a broad, dusky stripe or cloud, divided by the sutural interval; body dusky beneath..... 7. *partarius*.

3—3.25 mm. Very similar to *partarius*, but smaller, with the basal impressions less marked, and still more sparsely punctured; elytra dusky, with the suture and margins pale; prothorax pale above and beneath; trunk always and abdomen usually dusky..... 8. *pauperculus*.

3—4 mm. Equal in size to *partarius*, but narrower, with the sides of the prothorax not rounded behind, but even feebly subsinuate; the hind angles are, however, rounded, the disc marked with a large, quadrate, blackish spot; elytra blackish, with the suture and margin testaceous; scutellar stria longer than in *partarius*..... 9. *indistinctus*.

** Head pale, of the same color as the prothorax; body testaceous or ferruginous beneath, not blackish; scutellar stria short or wanting.

2.5—3 mm. Prothorax with the hind angles much rounded; basal impressions faint, marked with a few large punctures; elytra with the scutellar stria punctiform; disc sometimes with a faint dusky cloud..... 10. *testaceus*.

2.75 mm. Of the same size and form as the preceding, with the scutellar stria distinct though short, not punctiform..... 11. *micros*.

Bibliography and remarks.

1. *A. lineola* Dej., Sp. Gen., iv, 51; *Carabus lineola* Fabr., Ent. Syst., i, 155; Syst. El., i, 197; Oliv., 35, 78, pl. 7, f. 75; *Feronia lineola* Say, Tr. Am. Phil. Soc., ii, 37; ed. Lec., ii, 464; *Carabus fuscatus* Fabr., Ent. Syst., i, 164; Syst. El., i, 206, (var. thorace immac.)

Carabus comma Fabr. cannot be referred to this species, as is erroneously stated in the Melsheimer Catalogue and thence copied into my List, since it is described as having the head black.

2. *A. infuscatus* Dej., Sp. Gen., iv, 54; *suturalis* Lec., Ann. Lyc. New York, iv, 373.

4. *A. comma*. *Carabus comma* Fabr., Ent. Syst., i, 165; Syst. El., i, 207; *Feronia pallipes* Say, Trans. Am. Phil. Soc., ii, 38; ed. Lec., ii, 465; *A. pallipes* Dej., Sp. Gen., iv, 53; *A. dorsalis* Lec., Ann. Lyc. N. York, iv, 373.*

*The MS. descriptions and remarks of Dr. Zimmermann upon this and the next species are so important that I have translated them:

"*A. comma*. Abundant in the Northern States; 2¾—3½ lines long.

"Altogether similar to *A. pallipes* in form and color, and usually confounded with it; differs in the marking of the elytra, upon each of which there is a black stripe, so that the suture remains yellow; this stripe extends from the first to the fifth stria, and is commonly abbreviated in front, sometimes, however, attaining the base, but never the suture. The dorsal spot of the prothorax is sometimes wanting; the hind angles are somewhat more obtuse, and the scutellar stria of the elytra longer than in the next species.

"*A. pallipes*. Abundant in the Southern States; 2—3 lines long.

"Body elongated, not very convex, testaceous; mouth, palpi, base of antennæ, feet and anus reddish-yellow; under surface and head black; a large black or brown spot on the middle of the prothorax, and a broad black stripe on the elytra, which extends from the suture to the fourth stria, pointed in front and reaching the scutellum. Head with deep frontal impressions and moderately large eyes; prothorax narrowed behind; hind margin and shallow basal impressions thickly punctured; hind angles rather obtuse than rounded; elytra with deep, smooth striae, short scutellar stria and a distinct posterior dorsal puncture upon the second stria.

"Remarks.—It is obviously this species and not the preceding which Fabricius described from the Hunterian collection. This is apparent, not only in the words '*Coleoptera nigra limbo pallido*,' but also by the description and figure given by Olivier under the same name, with the additional remark that the insect was found in Carolina. *A. pallipes* Dej. is another species which is found in the Northern States, and described by Fabricius under the name *Ctr. comma* in the following words: 'Elytra grisea, macula lineari nigra versus suturam.' The specimen of *Carabus pallipes* in the Fabrician cabinet is a *Cymindis variegata* Dej., according to Schaum, Settin Ent. Zeitung, 1847, 47.

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5. *A. pallipes* Lec., Ann. Lyc. N. York, iv, 373; *Carabus pallipes* Fabr., Ent. Syst., i, 159; Syst. El., i, 200; Oliv., 35, 121, pl. 9, f. 99; *A. Lecontei* Chaud., Rev. and Mag. Zool., 1868.

6. *A. rugicollis* Lec., Proc. Acad. Nat. Sci., Phil., 1859, 83.

7. *A. partiarius* Chaud., Rev. and Mag. Zool., 1868; *Trechus part* Say, Trans. Am. Phil. Soc., ii, 99; ed. Lec., ii, 504. Dr. Zimmermann believed that he recognized in this species *Carabus celer* Oliv., 35, 114, pl. 14, f. 168, to which the locality "Paris" was incorrectly given; he supposed that the specimen was found in Carolina by Bosc., from whose collection it was described.

8. *A. pauperculus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus paup.* Dej., Sp. Gen., iv, 463, *Ac. consimilis* Dej., ibid., iv, 465.

9. *A. indistinctus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus ind.* Dej., Sp. Gen., v, 846. Dr. Zimmermann determined this species as *Ac. humilis* Dej., ibid., iv, 462, which is referred by Chaudoir to *Stenolophus*; with about twelve specimens before me, I can perceive no greater sexual differences than those observed in other small species of this genus; a specimen determined by Zimmermann as *Ac. difficilis* Dej., Sp. Gen., iv, 435, does not differ, except in being of a uniform pale brown color and scarcely perceptibly more elongated. Should this synonymy be correct the species must be called *A. humilis*, the specific name under which it was first published.

10. *A. testaceus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus test.* Dej., Sp. Gen., iv, 460.

11. *A. micros* Lec., Ann. Lyc. N. York, iv, 412. My description mentions the only distinguishing character between this and the preceding, which is, that the scutellar stria, though short, is quite obvious.

STENOLOPHUS Dej.

In this genus the mentum is semicircularly emarginate, without median tooth; the front and middle tarsi of the male are dilated, and furnished beneath with two rows of squamiform papillæ. The form of the dilated joints enables the species to be divided into natural groups. Until the male is known, it is somewhat difficult to decide whether some of the smaller species should be referred to this genus or to *Agonoderus*; but in doubtful cases, in the absence of specimens with dilated front tarsi, I have referred to *Stenolophus* all those in which the first and second joints of the hind tarsi are much longer than the third and fourth; in other words, those in which the hind tarsi are more slender, and the joints diminish in length more rapidly than in *Agonoderus*.

Our species may be grouped as follows:

A. Body rather stout, prothorax but little narrower than the elytra; front and middle tarsi of male broadly dilated; fourth joint very deeply bilobed; scutellar stria long.

a. Sides of prothorax broadly flattened, scarcely reflexed.

7.5 mm. Black, not very shining; 1st joint of antennæ, tibiæ and tarsi brownish..... 1. *carbonarius*.

b. Sides of prothorax less broadly flattened, more strongly reflexed.

6.5 mm. Piceous black, shining; base of antennæ, margin of prothorax, epipleuræ and feet brown; basal impressions of thorax feebly and sparsely punctured..... 2. *spretus*.

c. Prothorax narrowly margined, margin not reflexed.

6.5—7 mm. Piceous with brassy lustre, margins of thorax and elytra testaceous, base of antennæ and feet more or less brown; prothorax subquadrate; basal angles nearly rectangular, rounded at tip, impressions finely punctured and rugose..... 3. *limbalis*.

7—7.5 mm. Black, shining, elytra piceous or testaceous, slightly iridescent, base of antennæ and feet more or less testaceous or brown; prothorax feebly

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narrowed behind, hind angles obtuse rounded, basal impressions with a few scattered punctures, bead of lateral margin pale..... 4. *fuliginosus*.

5.5 mm. Black shining, base of antennæ and feet ferruginous, elytra slightly iridescent, margin brown; prothorax with the lateral bead brown, feebly narrowed behind, hind angles much rounded, basal impressions rounded, impunctured 5. *plebejus*.

3.5—4.5 mm. Smaller, piceous shining, sides of elytra and disc of prothorax frequently ferruginous, base of antennæ and feet ferruginous; prothorax feebly narrowed behind, hind angles very much rounded, not at all apparent; basal impressions small, rounded, feebly impressed, impunctured,

6. *conjunctus*.

4.5 mm. Similar to *conjunctus*, but narrower; black shining, margins of prothorax and elytra brown, base of antennæ and feet ferruginous; prothorax scarcely wider than long, not narrowed behind, hind angles much rounded, not at all apparent, basal impressions punctiform..... 7. *rotundatus*.

B.

Body more slender, prothorax evidently narrower than the elytra, front tarsi of male moderately dilated, 4th joint deeply bilobed, middle tarsi of male not dilated; elytra with long scutellar stria, more or less iridescent; base of antennæ and feet pale; hind angles of prothorax obtuse rounded.

a. Elytra more finely striate, middle tarsi of male with two rows of squamiform papillæ. (Pacific species.)

* Striæ deeper towards the tip.

6 mm. Blackish, with the margins paler; prothorax wider than long, scarcely narrowed behind, basal impressions broad, very feebly punctured.

8. *anceps*

6.5 mm. Elytra black, with narrow pale margin; prothorax scarcely wider than long, narrowed behind, basal impressions faint, feebly punctured, disc yellow, with a large, somewhat bi-lobed black spot (elytral striæ deeper than in the preceding and next species)..... 9. *cincticollis*.

** Striæ not deeper towards the tip.

4.5—5.27 mm. Beneath and head blackish, antennæ, feet, prothorax and elytra testaceous; prothorax wider than long, narrowed behind, basal impressions narrow, not punctured; elytra with a faint dusky cloud behind the middle 10. *unicolor*

b. Elytra more deeply striate, striæ deeper towards the tip, middle tarsi of male without rows of squamiform papillæ.

8.5 mm. Larger, blackish, with the margins paler; prothorax wider than long, with the basal impressions broad, finely punctured..... 11. *flavipes*.

5.5—5.75 mm. Smaller, blackish, narrow margins paler, prothorax scarcely wider than long, basal impressions broad, sparsely but less finely punctured.

12. *ochropesus*.

5.5—7 mm. Prothorax testaceous, hind angles more rounded, basal impressions sparsely punctured; elytra iridescent black, with very wide testaceous side margin..... 13. *dissimilis*.

C.

Small species of elongate form; front tarsi of ♂ moderately dilated, fourth joint deeply emarginate, middle tarsi feebly dilated, with two rows of squamiform papillæ; elytra with long scutellar stria, base of antennæ and feet pale; hind angles of prothorax obtuse or subrectangular, less rounded than in B.

a. Elytra with but one dorsal puncture, as usual, on the second stria; hind angles of prothorax obtuse, somewhat rounded; frontal suture more distinct than usual.

3 mm. Head narrower than the prothorax, and almost as long; color scarcely brown, elytra darker, slightly iridescent, prothorax trapezoidal, but little broader than long, narrowed behind, rounded on the sides only before the middle; basal impressions broad, feebly punctured; eyes not prominent.

14. *hydropicus*.

2.5—3 mm. Head more distinctly narrower than the prothorax, with larger and more prominent eyes, otherwise quite similar to *hydropicus*, but more elongate and less convex; color variable, but the head is always dark and the elytra iridescent..... 15. *carus*.

b Elytra with several dorsal punctures; hind angles of prothorax rectangular, not rounded.

4 mm. Elongate, more depressed, head blackish, prothorax pale, with a large quadrate dusky spot; anterior transverse impression deeply marked, basal impressions broad, rugosely punctured; elytra pale, with a broad dorsal vitta divided by the suture and abbreviated at each end; dorsal punctures 3. Georgia, one specimen 16. *flavilimbus*, n. sp.

3.5 mm. Smaller and less depressed; head blackish, prothorax testaceous, basal impressions deeper, feebly punctured, elytra dusky, with the suture, base and margin testaceous; dorsal punctures 3..... 17. *longulus*.

3—3.25 mm. Still smaller, prothorax as long as wide, with the sides still more subsinuate behind, and the hind angles more prominent; basal impressions deep, punctured; color brown or blackish, paler at the margins; dorsal punctures 4..... 18. *rectangulus*.

D.

Body more elongate and linear than in any of the preceding species: head as wide and nearly as long as the prothorax; front tarsi of ♂ moderately dilated, 4th joint bilobed, middle tarsi slightly dilated; prothorax narrowed behind, with flattened rectangular angles; elytra with long scutellar stria; palpi longer and more pointed than in the other groups of *PHILODES* Lec.

a. Elytra each with three distinct rows of dorsal punctures.

4.25 mm. Testaceous, head and part of elytra dusky; basal impressions of prothorax large, deep, not punctured; body depressed; eyes small.

19. *alternans*.

b. Elytra with the rows of dorsal punctures obsolete, only the posterior puncture of the second stria obvious.

4.25 mm. Dark brown, prothorax paler, with the basal impressions less deep, but also not punctured; body less depressed, eyes larger and more prominent..... 20. *tener*.

Bibliography and Remarks.

1. *S. carbonarius* *Brullé*, Lec. Ann. Lyc. N. York, iv, 409; *Harpalus carb.* Dej., Sp. Gen. iv, 398.

2. *S. spretus* *Dej.*, Sp. Gen. v, 845.

3. *S. limbalis* *Lec.*, Rep. Pac. R. R. Surv., xi, 2, Ins. 28; *S. indistinctus* Motsch. Bull. Mosc., 1859, 2, 134.

4. *S. fuliginosus* *Dej.*, Sp. Gen., iv, 423; Lec. Ann. Lyc. N. York, iv, 410; *S. versicolor* Kirby, Faun. Bor. Am., iv, 46; *S. fuscipennis* *Lec.*, Ann. Lyc., N. York, iv, 410.

5. *S. plebejus* *Dej.*, Sp. Gen., iv, 424; var. immat. *S. fuscatus* *Dej.*, ibid. 426.

6. *S. conjunctus* *Lec.*, Ann. Lyc., N. York, iv, 410; *Trechus conj.* Say, Trans. Am. Phil. Soc., ii, 90, cd. Lec. ii, 504; *Acupalpus misellus* *Dej.*, Sp. Gen. iv, 467; *Ac. rotundicollis* *Hald.*, Proc. Acad. Nat. Sc., Phil., i, 302; *Ac. lugubris*, *Hald.*, ibid., i, 302. Found from the Atlantic to the Pacific.

7. *S. rotundatus* *Lec.*, New. Sp. Col., (Smiths. Inst.), 17.

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8. *S. anceps* Lec., Pac. R. R. Expl., xi, 2, 28; *S. rotundicollis* Motsch. Bull. Mosc. 1859, ii, 135.
9. *S. cincticollis* Lec., Proc. Acad. Nat. Sc., Phil., 1858, 60.
10. *S. unicolor* Dej., Sp. Gen., iv, 411; Mannh. Bull. Mosc., 1843, 214.
11. *S. flavipes* Lec., Proc. Acad. Nat. Sc., 1858, 60.
12. *S. ochropezus* Dej., Sp. Gen., iv, 424; *Feronia ochr.* Say., Trans. Am. Phil. Soc., ii, 54; *S. convexicollis* Lec., Ann. Lyc., N. York, iv, 404.
13. *S. dissimilis* Dej., Sp. Gen., iv, 424.
14. *S. hydropicus* Lec., New Spec. Col. (Smiths. Inst.), 17.
15. *S. carus* Lec., *ibid.*, 18.
17. *S. longulus* Lec., List Col. N. Am., 13; *Acupalpus long.* Dej., Sp. Gen., iv, 459.
18. *Acupalpus rectangulus* Chaud., Rev. and Mag. Zool., 1868.
19. *S. alternans* Lec., Trans. Am. Phil. Soc., x, 386; *Badister testaceus*|| Lec. Proc. Acad. Nat. Sc., Phil., ii, 252; *Aepus test.* Lec. Ann. Lyc., N. York, iv, 413, *Philodes alt.* Lec., Class. Col. N. Am., 1, 33.
20. *S. tener* Lec., Pac. R. R. Expl., xi, 2, Ins. 29; *Philodes tener* Lec., Class. Col. N. Am., i, 33.

BRADYCELLUS Er.

The elytra are obliquely but feebly sinuate at tip, and never subtruncate as in the species of *Stenolophus*.

This genus contains both large and very small species, and, like *Stenolophus*, may be divided into groups according to the dilatation of the male tarsi; it may be distinguished from the other two genera by the mentum being armed with a large acute tooth, though in some of the smaller species it is sometimes difficult to perceive this character without the aid of a compound microscope; and even then the tooth is sometimes rendered less apparent, when the ligula is extended, by the basal portion of that organ; I believe, however, that I have by careful examination satisfied myself of the existence of the mentum-tooth in all of the species which I now refer to the genus.

Some of the smaller species of division B closely resemble in appearance *Agonoderus*, but may be usually known by the more slender antennæ and hind tarsi, and by the much shorter scutellar stria, which is sometimes in fact entirely wanting; a reference to the mentum, to verify the proper character belonging to the genus, should be always made in doubtful cases.

Baron Chaudoir regards the 1st division as constituting a distinct genus, *Tuchycellus* Moravitz, but in view of the sexual differences observed in *Stenolophus*, I am scarcely prepared to adopt his opinion; I prefer therefore, for the present, to group the species as follows:

A. Front tarsi of male moderately dilated, middle tarsi less dilated, with two rows of squamiform papillæ beneath; elytra with a long scutellar stria.

a. Basal bead of prothorax well defined for its whole extent.

10—11 mm. Ferruginous, elytra black, iridescent, deeply striate; prothorax scarcely narrowed behind, sides broadly rounded and widely depressed, hind angles obtuse, somewhat rounded; base finely punctured.... 1. *dichrous*.

9—10 mm. Color as in the preceding; prothorax narrowed behind, sides rounded in front, oblique behind; hind angles scarcely rounded; base finely punctured; basal impressions more strongly marked..... 2. *vulpeculus*.

8 mm. Black; prothorax narrowed behind with small basal impressions, hind angles obtuse, not rounded; antennæ and feet ferruginous.

3. *autumnalis*.

b. Basal line of prothorax interrupted or nearly obliterated at the middle.

5—6 mm. Blackish; bead of prothorax pale; elytra piceous or dark testaceous; body more slender; prothorax distinctly narrowed behind; hind angles obtuse rounded; basal impressions well marked, sparsely punctured; legs ferruginous, thighs and tips of tibiæ sometimes darker; 1st joint of antennæ pale..... 4. *badiipennis*.

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7 mm. Black; prothorax and elytra testaceous, the former with a large quadrate black spot, the latter with a dusky cloud divided by the suture; body slender; prothorax distinctly narrowed behind; hind angles subrectangular, slightly prominent, not rounded; basal impressions broad, punctured; antennæ with joints 1—3 testaceous, legs testaceous.

5. *atrimedius*.

4.5 mm. Smaller, slender, ferruginous, upper surface pale, with the head and disc of elytra somewhat darker; prothorax distinctly narrowed behind; hind angles subrectangular, slightly prominent, not rounded; basal impressions broad punctured; antennæ with the joints 1—3 or 4 paler.

6. *nebulosus*.

5.5—6.5 mm. Black, shining, not iridescent; prothorax with the hind angles rectangular; basal impressions linear, strongly marked, smooth, or scarcely punctured; anterior transverse impression distinct, strongly angulated; upper part of tibiæ and 1st joint of antennæ dark testaceous.

7. *nigrinus*.

5 mm. Smaller than *nigrinus*, with the hind angles of prothorax distinctly obtuse, but not rounded; otherwise not different; perhaps only an individual variation..... 8. *tibialis*.

B.

Species of small size with the scutellar stria very short, or altogether wanting; front tarsi of male moderately dilated, middle tarsi not dilated nor furnished with squamiform papillæ.

a. Striæ of elytra perfect.

* Head finely and sparsely punctured behind.

5 mm. Black or piceous shining; prothorax wider than long, slightly narrowed behind, much rounded on the sides; hind angles rounded; basal impressions well marked, feebly punctulate; elytra with the humeri and sometimes the sides paler brown; base of antennæ brown... 9. *axillaris*.

4.5—5 mm. Blackish, with the first joint of antennæ, feet and elytra more or less testaceous; prothorax at tip and base sparse punctured, formed as in the preceding, but less rounded at the sides and hind angles; basal impressions well marked; elytra (when pale marked with a dusky dorsal cloud, when dark, with the suture and sides paler,) thinly clothed with short pubescence near the sides and tip; intervals usually sparsely and distinctly punctured at the sides, base and tip; (α . larger and broader, testaceous, trunk dusky; elytra scarcely punctulate, *B. nitens* Lec.)..... 10. *cognatus*.

* * Head not punctulate; basal impressions of prothorax feeble.

† Basal impressions of prothorax smooth.

5 mm. Black, 1st joint of antennæ and feet testaceous yellow; prothorax much rounded on the sides, slightly narrowed behind; hind angles obtuse, scarcely rounded; basal impressions very feeble; scutellar stria entirely wanting..... 11. *cordicollis*.

†† Basal impressions of prothorax punctulate; scutellar stria represented by a puncture at the base of the 2d stria. Body elongate.

4—4.5 mm. Dark reddish testaceous, trunk black, antennæ with first two joints pale; prothorax a little wider than long, narrower behind, sides oblique near the base, but not sinuate; hind angles obtuse, almost rounded, not at all prominent; basal impressions broad, shallow, sparsely punctured; (only differs from the next by the hind angles of the thorax not being prominent, and is probably a race of it.)..... 12. *congener*.

4—4.5 mm. Usually testaceous, sometimes piceous, with pale margins; base of antennæ and feet yellow; prothorax a little wider than long, narrowed behind; sides subsinuate very near the hind angles, which are obtuse

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not rounded and slightly prominent; basal impressions broad, shallow, strongly punctured..... 13. *rupestris*.

4—4.25 mm. Blackish, margins brownish, feet and first two joints of antennæ yellow; prothorax as in *rupestris*, from which this species differs only by its darker color and more elongated form, and of which it seems to me to be a race..... 14. *parallelus*.

3.75 mm. Smaller, pale testaceous, metasternum and small elytral cloud dusky; prothorax nearly as wide as long, narrowed behind; sides obliquely subsinuate behind the middle; hind angles rectangular, not at all rounded; basal impressions broad, sparsely and finely punctured..... 15. *rivalis*.

3.75 mm. Less elongate than the others of this group; black, prothorax, elytra and feet testaceous; antennæ brown, with first 2 joints pale; prothorax wider than long, more narrowed behind; sides scarcely sinuate near the base, hind angles obtuse, very slightly prominent; basal impressions feeble, with a few punctures; eyes smaller and less prominent than usual. New Jersey and Virginia, two specimens 16. *nigriceps*, n. sp.

3 mm. More elongate, black or piceous; antennæ and feet testaceous; the former sometimes brown, with two basal joints pale; prothorax but little wider than long, narrowed behind; sides scarcely sinuate near the base; hind angles obtuse, slightly prominent; basal impressions broad, sparsely punctured; eyes large, prominent..... 17. *tantillus*.

3—3.25 mm. Same form and color as the last, from which it differs only by the sides of the prothorax being distinctly subsinuate behind the middle and the hind angles nearly rectangular, not rounded, and somewhat prominent; the basal impressions are larger and more punctured; eyes large and prominent; antennæ brown, first two joints and feet testaceous.

18. *californicus*.

3.25 mm. Same form as the two preceding, but differing by the prothorax, the sides of which are obliquely rounded behind the middle, and the hind angles obtuse and rounded; basal impressions less deep, sparsely punctured; feet testaceous; antennæ dark piceous; first two joints testaceous.

19. *neglectus*.

b. Stria of elytra effaced, except the sutural one, which is deep; body rather stout and convex; prothorax not narrowed behind; sides subsinuate behind the middle; hind angles rectangular; basal impressions very feeble.

4.5—6.5 mm. Varies from testaceous to greenish black with a bronzed reflection; first two joints of antennæ and feet testaceous. Traces of a long scutellar stria are apparent in some specimens of this species, which thus differs from all the others in which the middle tarsi of the male are not furnished with papillæ..... 20. *nitidus*.

C.

This division contains but a single species of very elongate linear form, in which the eyes are much smaller and less prominent than in any other known to me; the prothorax much longer than wide, somewhat narrowed behind, broadly sinuate on the sides, which have the lateral bead much more strongly marked than in the other species; the basal impressions are long, narrow, deep and punctured; the hind angles rectangular; the elytra at the base are wider than the prothorax, very long and parallel, obliquely sinuate and subtruncate at tip; the striæ are deep, the scutellar is represented by a large puncture, and the second stria has a dorsal puncture behind the middle. The tibiæ are more spinous than in the other species, and the whole appearance of the insect is that of a small *Pterostichus*. The front tarsi of the male are feebly dilated, the middle tarsi without papillæ.

5.5 mm. Black, margins brownish; antennæ brown; first two joints and feet testaceous yellow; prosternum channelled between the front coxæ; peduncle of mesothorax coarsely punctured... .. 21. *linearis*.

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Bibliography and Remarks.

1. *B. dichrous* Lec., Trans. Am. Phil. Soc., x, 385; *Harpalus dichrous* Dej., Sp. Gen., iv, 258; *H. iricolor* Say, Trans. Am. Phil. Soc., iv, 432.
2. *B. vulpeculus* Lec., Trans. Am. Phil. Soc., x, 385; *Harpalus vulp.* Say, Trans. Am. Phil. Soc., ii, 30, ed. Lec., ii, 458; *ibid.* iv, 432, ed. Lec., ii, 545.
3. *B. autumnalis* Lec., Trans. Am. Phil. Soc., x, 385; *Feronia autumn.* Say, Trans. Am. Phil. Soc., ii, 48, ed. Lec., ii, 473; *Geobænus autumn.* Lec., Ann. Lyc., N. York, iv, 403.
4. *B. badiipennis* Lec., *ibid.*, x, 385; *Stenolophus bad.* Hald., Proc. Acad. Nat. Sc., Phil., i, 302; *Geobænus ruficrus* Lec., Ann. Lyc., N. York, iv, 404; *Geobænus lugubris* Lec., *ibid.*, iv, 405.
5. *B. atrimediæ* Lec., *ibid.*, x, 385; *Feronia atr.* Say, Trans. Am. Phil. Soc., ii, 39, ed. Lec., ii, 466; *Trechus similis* Kirby, Faun. Bor. Am., iv, 48.
6. *B. nebulosus* Lec., *ibid.*, x, 385; *Acupalpus suturalis* || Lec., Ann. Lyc., N. York, iv, 411.
7. *B. nigrinus* Motsch., Käfer Russl., 22; *Harpalus nigr.* Dej., Sp. Gen., iv, 399; Mannh. Bull. Mosc., 1843, 213, *ibid.*, 1852, 298; *Geobænus quadricollis* Lec., Ann. Lyc., New York, iv, 405.
8. *B. tibialis* Lec., List of Col. N. Am. 12; *Trechus tibialis* Kirby, Fauna Bor. Am., iv, 46; *Geobænus tib.* Lec., Ann. Lyc., N. York, iv, 405.
9. *B. axillaris* Lec., List of Col. N. Am. 12; *Acupalpus ax.* Mannh., Bull. Mosc., 1853, 124. I received a specimen of this species from Count Muisech, under the name *Ac. conflagratus* Mann., *ibid.*, 126.
10. *B. cognatus* Schiodte, Danm. El., i, 158; ej. Naturhist. Bidrag. Grönland, 54; *Acupalpus cogn.* Dej., Sp. Gen., iv, 440; *Ac. longiusculus* Mannh., Bull. Mosc., 1853, 125; and *B. nitens* Lec., Proc. Acad. Nat. Sc., Phil., 1858, 60.
11. *B. cordicollis* *Geobænus cord.* Lec., Ann. Lyc., N. York, iv, 406.
This species has been accidentally omitted in my list of N. Am. Coleoptera.
12. *B. congener* Lec., Melsh. Cat. Descr. Col., 25; *Geobænus cong.* Lec., Ann. Lyc., N. York, iv, 407; *B. nubifer* Lec., Pr. Ac., 1858, 60, is a pale variety from Arizona, having the trunk and a small dorsal elytral cloud dusky. *B. ventralis* Lec., *ibid.*, is a specimen with more numerous punctures at the base of the prothorax.
13. *B. rupestris* Lec., Mels. Cat. Descr. Col., 25; *Trechus rupestr.* Say, Trans. Am. Phil. Soc., ii, 91, ed. Lec., ii, 505; *Geobænus rup.* Lec., Ann. Lyc., N. York, iv, 406; *Acupalpus elongatulus* Dej., Sp. Gen., iv, 457; *Trechus flavipes* Kirby, Fauna Bor. Am., iv, 47; *Stenolophus cinctus* Say, Trans. Am. Phil. Soc., iv, 434, ed. Lec., ii, 547.
14. *B. parallelus* Chaud., Rev. et Mag. Zool., 1868; ? *Acupalpus debilipes* Say, Trans. Am. Phil. Soc., iv, 425, ed. Lec., ii, 548.
15. *B. rivalis* Lec., Proc. Acad. Nat. Sc., Phil., 1858, 60.
17. *B. tantillus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus tant.* Dej., Sp. Gen., iv, 465.
18. *B. californicus*, *Stenolophus cal.* Lec., Pac. R. R. Expl., xi, 2, Ins., 29.
19. *B. neglectus* *Geobænus negl.* Lec., Ann. Lyc., N. York, iv, 407; *Stenolophus negl.* Lec., Trans. Am. Phil. Soc., x, 385.
20. *B. nitidus* Mannh., Bull. Mosc., 1843, 214; *Acupalpus nit.* Dej.; Sp. Gen., iv, 474.
21. *B. linearis* Lec., New Spec. Col. (Smiths. Inst.), 16.
Acupalpus symmetricus Motsch., Bull. Mosc., 1859, 2, 134. I have not identified this species, but suspect it to be a Western race of *B. rupestris*.
Trechus immunis Kirby, Fauna Bor. Am., found in lat. 54°, I have not identified; it is perhaps *Stenolophus carus* Lec., but the description is scarcely sufficient to warrant the placing of the latter in synonymy.
- Geobænus arenarius* Lec., Ann. Lyc. Nat. Hist., New York, iv, 403, referred by me (Trans. Am. Phil. Soc., x, 385) to *Bradycellus*, is proved by the discovery of the ♂ to belong to *Amaria*, division *LIOCNEMIS*.

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The following reports were read and referred to the Publication Committee :

REPORT OF THE CURATORS.

Another year has passed with its usual addition of treasures to the Museum of the Academy, which has now become, from its exceedingly crowded condition, rather a rich store house of materials for the use of naturalists, than a convenient place of exhibition and study. A new and previously unforeseen incident has occurred during the year which greatly contributes to the necessity of our seeking other quarters. A huge store, recently erected in the rear of our building, so much diminishes the light from that direction, as greatly to interfere with the view of objects in the museum.

The trustees of the building fund of the Academy continue their efforts to procure means to provide proper accommodations for the purposes of the institution, not only suitable to its present condition, but having in view its future increase, but their means are not equal to what are desirable. Having obtained subscriptions from citizens of upwards of \$100,000, they have selected and purchased an ample piece of ground, in many respects well selected and located, at the south-west corner of 19th and Race Sts., opposite one of the finest public squares of the city. But the lot has cost upwards of \$60,000, and the estimates of an appropriate building approach \$300,000, which we see but little prospect of obtaining.

Many of the subscribers to the building fund and other citizens object to the location chosen, and consider that a position on Broad Street would be in many respects more desirable, and especially as it would there be more in the way of travel of those most interested in the institution. Admitting this view to be correct, a greater difficulty in the way of accommodating the Academy in this position, is the much greater value of the ground than in the locality already chosen.

Most of the members of the Academy, and numerous citizens hope and look for aid from our Legislature and City Councils, in the suggested appropriation of one of the Penn Squares for the uses of the institution. Taking the view that the Academy is virtually a public institution, of which its members are the trustees, and considering the importance it is to the intellectual interests of the public, it appears to us no more than a matter of justice that the city should be enabled to appropriate for the use of the Academy, what is now really a useless common. It is to be hoped that the efforts now being made by the Trustees of the Building Fund of the Academy, to obtain an act of the Legislature to permit our City Councils to appropriate one of the Penn Squares to our uses may prove successful. With such assistance, we could no doubt readily obtain the additional means to erect a suitable building for the Academy, one which, with its stores of intellectual treasures open free to the public, would become one of the most attractive features of Philadelphia.

The Museum collection is in good condition. Our thanks are due to Messrs. Isaac Burke and E. Dieffenbaugh, who have poisoned the entire American Herbarium, and are now engaged in doing the same with the General Herbarium. This is a most important work, ensuring the plants against the depredations of insects.

Among the most important and attractive additions made to the Museum during the year is the restored skeleton of the great extinct reptile *Hadrosaurus*, now occupying the fore part of the lower hall. The restoration is due to the accomplished natural history artist B. Waterhouse Hawkins, of London, and when we add that all the labor and expense attending the restoration was a voluntary contribution of the gentleman, we cannot too much express our gratitude to him.

The fine mounted specimen of the great extinct Elk, of Ireland, which has 1868.]

so long been a conspicuous object in the Museum, and which had been on deposit with the Academy, has now become its property, having been presented, together with other specimens of the same animal, by our fellow member, Mr. Joseph A. Wright.

In the month of December some thieves gained access to the Academy, and broke open several of the mineral cases, from which they abstracted a number of specimens, principally gold and precious gems. Fortunately most of the specimens have been recovered, and one of the thieves was apprehended and is now in prison.

During the year, notwithstanding the Academy was closed twelve of the usual visiting days, there were 65,769 visitors to the Museum.

The following is a synopsis of the donations made in the different departments of the Museum during the year.

Mammals.—Twenty-one species, besides two small collections, were presented by E. D. Cope, W. M. Gabb, H. Yarnal, I. I. Hayes and W. Raborg.

Birds.—Two small collections of birds and of nests and eggs, together with sixteen additional specimens, were presented by E. J. Lewis, E. D. Cope, W. S. Wood, J. D. Sergeant and C. S. Westcott.

Reptiles.—Prof. E. D. Cope presented a collection of 1465 specimens of 118 species from Pennsylvania, Virginia and Brazil; 40 species from Equador; four collections from Brazil, New Granada, Central America and elsewhere; and in addition, 33 species from Central America, the Rocky Mountains and elsewhere. Dr. George H. Horn presented a collection of 48 specimens of 16 species from Arizona and California; Dr. G. Lincecum, 104 specimens of 14 species of Texas; W. M. Gabb, 10 species from Lower California and Nevada; Ed. Day, a collection in 5 jars from Equador; and the Smithsonian Institution 20 species from Guayaquil, besides 8 species of *Amblystoma*. Others were presented by Dr. J. L. LeConte, Jos. A. Clay, C. B. Adams, C. Guillou, Dr. Randall and J. C. Brevoort.

Fishes.—Prof. Cope presented two collections in 30 jars from Kansas and New Granada, besides 23 species from the Potomac, the Wabash, New Jersey, and elsewhere. F. Sumichrast presented a collection of 86 specimens of six species from Mexico; Dr. Geo. Davidson, 15 species from Alaska; and Thomas Davidson, a collection from the West Indies.

Mollusks.—Many donations of mollusca have been made through the Conchological Department, for an account of which refer to the report of its Conservator.

In addition the Academy has received a large collection of unionidæ and other shells of the late Major LeConte, from Dr. John L. LeConte. Specimens were also received from J. R. Willis, W. M. Gabb, Dr. Genth and the Smithsonian Institution.

Articulates.—A collection of upwards of 600 species of exotic coleoptera, belonging to the late Dr. Zimmerman, was presented by Drs. John L. LeConte, Samuel Lewis, G. H. Horn, F. W. Lewis and Messrs. I. Lea, S. S. Haldeman and E. Draper. Dr. H. C. Wood presented 19 species of phalangidæ; J. R. Willis a small collection of crustacea, from Nova Scotia; and 14 species of myriapods, crustaceans, etc., were presented by W. M. Gabb, Geo. Davidson, J. L. LeConte, Edw. D. Cope, J. Lambert, H. Allen, and D. G. Brinton.

Radiates.—Nine echinoderms were presented by W. M. Gabb, Geo. Davidson and J. Adams.

Fossils.—Especially in the department of palæontology has the Museum of the Academy increased during the year. Besides the important addition mentioned in the introductory portion of the report, the following have been received.

A collection of about 3000 specimens of 500 species of fossils from the

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triassic, cretaceous, and tertiary formations of California, Nevada and Oregon, deposited by Wm. M. Gabb. Many of the species are types described by Mr. Gabb.

A part of the Poirrier collection of remains of mammals, birds, and fishes from the miocene, pliocene and post-pliocene formations of the valley of the Loire, France, purchased at a cost of \$700, and presented by Messrs. Samuel and John Welsh, Isaac Lea, W. S. Vaux, and John Rice.

The greater part of the skeleton of an enormous extinct saurian, described by Prof. Cope, under the name of *Elasmosaurus platyrus*, from near Fort Wallace, Kansas, presented by Dr. Theop. H. Turner.

Two collections consisting of upwards of 1000 specimens of about 40 species of teeth of sharks and other fishes, and many specimens of 16 species of cetaceans, from the miocene formation of Charles Co., Maryland, presented by Prof. Edward D. Cope.

A collection of remains of *Laelaps* and other extinct reptiles from the marls of New Jersey, presented by Prof. Cope.

A collection of tertiary and cretaceous plants from Colorado, New Mexico, and Kansas, described by Lesquereux, presented by Dr. John L. Leconte.

L. P. Wheelock presented 58 fossils of the corniferous limestone of Ohio; Col. James Greer, 33 fossils from Ohio; and Rev. E. B. Eddy 17 fossils from Iowa.

Small collections from Ohio, Virginia, Pennsylvania, Maryland and Nova Scotia and elsewhere, were presented by E. D. Cope, Dr. O. A. Judson, W. M. Gabb, John R. Willis, F. A. Randall, and Dr. J. T. Rothrock. Sixty additional specimens were presented by E. D. Cope, W. M. Gabb, Dr. F. A. Hassler, J. Leidy, E. R. Beadle, Dr. F. V. Hayden, Dr. J. L. LeConte, C. W. Matthews, Gen. John Gibbon, R. H. Lamborn, Dr. N. R. Bradner, John Walton, W. Köhler, G. W. Hall, H. R. Parker and C. W. Peale.

Minerals.—Small collections were received from John R. Willis and C. Guillou, and 40 specimens were presented by Dr. F. A. Hassler, T. D. Rand, W. S. Vaux, E. Draper, T. Guilford Smith, F. Laverne, B. S. Lyman, E. R. Beadle, S. Tyson, Dr. J. Corse, Mr. Struthers, M. Phillips, T. F. Moss, F. V. Hayden, P. A. Snell, G. J. Ulex, B. A. Hoopes, Mr. Goldsmith and J. H. Claghorn.

Botany.—A collection of California plants were presented by Dr. W. P. Gibbons; 53 plants of New Jersey and Pennsylvania were presented by J. Burke and E. Dittenbaugh; and Dr. George Engelmann, of St. Louis, presented a copy of his *Herbarium of the North American Junci*.

Comparative Anatomy.—Dr. George Davidson presented skeletons of a male and female Otter, from Alaska. Dr. James L. Corse, presented a collection consisting of jars of embryo mammals, specimens for the microscope, eutzoa, 7 human skulls, casts of 4, and the skeleton of an eagle. 23 skeletons, skulls and other specimens were presented by W. Bartram Snyder, I. I. Hayes, Joseph Jeanes, W. S. Vaux, Edward Cope, Wm. M. Gabb, O. N. Bryan, Prof. Von Siebold, of Munich, Edw. Davis, Dr. Genth, I. Lea, and E. J. Lewis.

Miscellaneous.—Specimens were presented by Joseph Henry Craven, Rev. A. Grout, J. R. Willis, Wm. M. Gabb, J. B. Ellis, E. Borda, G. H. Horn, Dr. J. A. McConnel, P. Crosby, S. Powell, Rev. W. E. Hunt, and the United States Sanitary Commission.

Respectfully submitted by

JOSEPH LEIDY,

Chairman of the Curators.

LIBRARIAN'S REPORT.

The Librarian respectfully reports that the number of additions to the Library from January to December, 1868, inclusive, amounts to 1323.

Of these there were volumes, 257; pamphlets, 1055; maps, &c., 11: Total, 1323. 33 were folios; 323 quartos; 952 octavos; 4 duodecimos, and 11 maps. 1868.]

These were derived from the following sources :

Editors, 159; Authors, 111; Societies, 636; Library Fund, 246; Wilson Fund, 105; Minister Public Works, France, 9; Messrs. Townsend & Adams, 8; Publishers, 8; Geol. Survey of Sweden, 4; Geol. Survey of India, 5; Geol. Survey of United Kingdom, 3; Treasury Department, 7; Navy Department, 1; B. Westermann & Co. 1; Wm. M. Gabb, 3; Jos. Jeanes, 1; Surgeon General, 1; Smithsonian Inst., 2; Dr. F. A. Hassler, 2; J. D. Sergeant, 4; Land Office, 1; S. S. Haldeman, 1; Wm. Warren, 1.

And were divided as follows :

Journals, 971; Geology, 80; General Natural History, 56; Entomology, 39; Botany, 28; Conchology, 24; Anatomy, 20; Physical Science, 17; Ornithology, 17; Voyages and Travels, 15; Bibliography, 9; Ichthyology, 9; Mammalogy, 6; Herpetology, 6; History, 8; Helminthology, 3, Mineralogy, 3; Chemistry, 1; Medicine, 1.

In addition to the above, eleven volumes and 113 pamphlets were presented through the Conchological section, making the entire increase 268 volumes and 1179 pamphlets, maps, charts, &c.

The total number of volumes now in the library is 21,964.

During the year 79 volumes have been bound, and 60 additional volumes are now in the hands of the binder.

For expenses of binding, amounts paid for books, salaries, &c., reference is made to the report of the Treasurer of the Academy.

To the list of missing books must be added the first volume of Hewitson's *Exotic Butterflies*, Bois-Duval and LeConte's *Lepidoptera of North America*, and Darwin's *Journal of Researches in the Beagle*, edition of 1845. Although search and inquiry have been made for these works, no information regarding their whereabouts has as yet been obtained. The loss of the first named is particularly unfortunate, as it breaks the suite of a valuable illustrated work, each volume of which is worth about \$25.00 in gold.

The Conchological department is so comparatively complete in itself that it is proposed as an experiment to number the works contained therein, with a view to extending the arrangement to the general library, if, after sufficient experience, it be found to be as beneficial as is anticipated. There is little doubt that the numbering of the books consecutively on the shelves and in the catalogues will greatly facilitate reference, while it will, it is hoped, tend to prevent misplacements and losses.

Owing to the very small amount of funds annually at the disposal of the Library Committee, but more especially during the past year, the number of books purchased for the use of the working members of the Academy has been entirely inadequate to their wants. The botanical and geological libraries are particularly deficient in the more important works recently published. These are mentioned especially, not because they stand alone in their imperfect condition, but because being most constantly referred to, they should receive the more immediate attention.

Three hundred dollars are annually received from the Wilson legacy, but, far from supplying the wants of the library, this amount is not sufficient to pay for the continuations of the works subscribed for by Dr. Wilson himself, and it has been necessary for the last two years to make up the deficiency from another source. Nor will the sum of \$1000.00, lately appropriated by the Academy, suffice to remedy the evil but for a very short time. This will be readily believed when it is known that the publication price of one work alone, which is required immediately, is \$320.00 in gold.

The Library Fund, by means of which many valuable works have been obtained, was exhausted during the past year, so that in the *immediate* future, at all events, no such source of supply will be at hand.

Under these circumstances the propriety of selling certain books in our possession, which have no direct connection with the Natural Sciences, has

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been suggested. Some years since a large and valuable collection of French Historical Documents, given to the Academy by Wm. Maclure, was thus disposed of greatly to the advantage of the library.

The opinion is now entertained by some of the members of the Academy, that a similar disposition with similarly good results might be made of the collection of works on Antiquities and the Fine Arts now in our possession. This collection embraces some rare and valuable works which are practically worthless to the Academy. If sold to an institution or individual interested in the subjects treated by them, their usefulness would be greatly increased, while means would be provided for obtaining those works which are of the utmost importance to all those engaged in the study of the natural sciences.

All of which is respectfully submitted.

EDW. J. NOLAN,
Librarian.

REPORT OF THE RECORDING SECRETARY.

The Recording Secretary would beg leave to report,—

That during the year ending November 30th, 1868, there have been elected sixty-five members and twenty-one correspondents.

The death of the following members and correspondents have been announced.

Nine members, namely: Edw. B. Grubb, Tobias Wagner, Gen. Geo. A. McCall, Mr. Thomas Earp, Mr. C. F. Hagedorn, Mr. Isaac Barton, Mr. Matthew Newkirk, Mr. Jacob Gilliams.

Four Correspondents, namely: Rev. Mr. E. Johnson, Marcel de Serres, Sir David Brewster, Mr. Clot Bey.

The number of papers contributed and ordered to be printed in the Proceedings and Journal during the year has been forty-nine, as follows:

In the Proceedings thirty-six, namely:

E. D. Cope.....	12	Isaac Lea.....	8
John Cassin.....	1	Thomas Meehan.....	5
Jacob Ennis.....	1	T. D. Rand.....	1
George N. Lawrence	1	W. B. Butcher, M.D.....	1
Elliot Cones, M.D.....	2	Alphonso Wood.....	1
Tryon Reakirt	1	Joseph Leidy.....	11
Thaddeus Norris.....	1		

In the Journal three, namely:

Isaac Lea, 1; Joseph Leidy, 1; E. D. Cope, 1.

All of which is respectfully submitted.

S. B. HOWELL,
Rec. Sec'y.

REPORT OF THE COMMITTEE ON HERPETOLOGY AND ICHTHYOLOGY.

The Committee on Herpetology and Ichthyology respectfully reports:

That there has been added to that part of the Museum under its care the following collections of Reptiles in Alcohol.

Duplicates of the collections made for the Smithsonian Institution in Vera Cruz, Mexico, by Francis Sumichrast, which are very extensive; the same of collections made for the same in high Guatemala, by Henry Hague; same of collections made in Yucatan, Belize and Tabasco, by Schott, Parsons and Berendt; with other duplicates of collections from Central America. Dupli-1868.]

cates of collections made in Venezuela, and at Guayaquil, by Messrs. Destruges and Reeve. Duplicates also from the Smithsonian Institution from collections made in San Domingo, by W. Younglove; in Navassa, by W. Raisin; and in Porto Rico, by Geo. Latimer; from San Francisco, Cal., and from Vancouver's Island, made by A. W. Hewson. Also similar series from Arizona, collected by Elliott Coues, M.D., and from Camp Grant in the same Territory made by Dr. Canfield.

In the same manner the Committee has received duplicates of the collections of the Essex Institute, from Madagascar, Zanzibar and Western Africa.

There have been procured by exchange the large collections made by the Orton Expedition to Equador and the Upper Amazon; also collections from the Cape of Good Hope, the Seychelle Islands, and from Surinam by exchange with the Historical Society of Long Island.

By presentation the Committee has obtained a fine collection from Beirut, Syria, which also embraced mammals and other objects; similar collections from Bahia, Brazil; one from Central America, and two from unusual localities in New Grenada. Collections also from California and Lower California, and from Owen's Valley on the boundaries of Nevada. Also smaller collections from Australia, Africa, Persia and other places in Asia.

Of fishes there have been also numerous additions made to the charge of the Committee. They have not received much in this department by the duplicates of other museums, but have been chiefly dependent on presentation. In this way we have acquired large series of species from the Island of St. Kitts, West Indies, from St. Croix, West Indies, and from the Coasts of Alaska. Also from the rivers of South Western Virginia; from the Alleghany River above Pittsburg; from the branches of the Missouri River near Leavenworth, Kas., and from the Miami River, Ohio. All these are collections of considerable extent.

Smaller collections have been procured from Surinam, Central America, and Mexico; also from Beirut, Syria, and from Newport, Rhode Island.

The above collections, embracing a great number of specimens, were sorted, bottled, labelled, and classified in the Museum by the Museum Assistant, thus saving a great deal of time to the Committee, and enabling them to pursue scientific investigations on such and other material.

The Committee also congratulates itself on the benefits accruing to the committee's department, through the employment by the Curators of a French preparateur. Exclusive of numerous preparations in the department of birds and mammals, the committee have now a series of skeletons of forty species of Reptiles, and eighty of Fishes, obtained at rates far lower than by any other means known to the Committee. At the same time the Museum Assistant has received instruction in preparing skeletons and skins, thus supplying a want which the Committees department and several other departments have experienced for several years past.

Which is respectfully submitted by

EDWARD D. COPE, *Chairman.*
ROBERT BRIDGES.

REPORTS OF THE CONCHOLOGICAL SECTION.

RECORDER'S REPORT.

During the year ending Dec. 3, 1868, there have been elected two members and four correspondents.

The death of one correspondent, Rev. E. Johnson, of Waioli, S. I., was announced Nov. 5, 1868.

Thirty-five papers have been accepted for publication in the Journal, by the following authors:

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Prof. O. A. L. Mörch,	1	Geo. W. Tryon, Jr.,	8
Wm. M. Gabb,	7	Dr. James Lewis,	5
Wm. Harper Pease,	3	T. A. Conrad,	4
Dr. J. G. Cooper,	2	S. R. Roberts,	2
Prof. S. S. Haldeman,	1	Thomas Bland,	1
Dr. P. P. Carpenter,	1		

The following amendment to the By-Laws was adopted, adding to Art. X of Chap. XII the words "or of the Academy;" so as to read: "The actual date of publication of any issue of the 'Journal' shall be determined by the published record of its presentation at a meeting of the Section or of the Academy."

Respectfully submitted,

S. R. ROBERTS, *Recorder*.

List of Members elected during 1868.—Mrs. Lucy W. Say, Dr. F. A. Hassler.

Correspondents.—G. B. Sowerby (elected in 1867), London; *Rev. E. Johnson*, Waioli, S. I. (deceased); Col. E. Jewett, Utica, N. Y.; Dr. Ferd. Stoliczka, Calcutta; Ralph Tate, London.

REPORT OF THE SECRETARY.

To the Conchological Section of the Academy of Natural Sciences, Philadelphia:

The Secretary would respectfully report that letters have been received as follows, since the last annual meeting, viz.:

Dec. 31, 1867.—Alpheus Hyatt, Salem, Mass., in acknowledgement of election as correspondent.

Feb. 4th, 1868.—Dr. O. A. L. Mörch, Copenhagen, acknowledgement of election.

Feb. 4th, 1868.—Jabez Hogg, London, with publications forwarded.

April 20th, 1868.—Robt. Dinwiddie, New York. Letter of thanks.

May 10th.—G. Nevill, Calcutta. Offering an exchange of specimens.

May 15th.—Prof. S. L. Abbott, Boston. Letter of thanks.

May 26th.—Prof. Jos. Henry, Smithsonian. Letter of acknowledgement.

June 13th.—Prof. S. F. Baird, S. I. Letter of thanks.

July 17th.—Dr. O. A. L. Mörch, Copenhagen. Letter of thanks.

Oct. 10th.—Dr. Ferd. Krauss, Stuttgart. Letter of thanks.

Letters have been written as follows, viz.:

April 3d.—To Edmund Draper, Thomas Sparks, and G. W. Fahnestock, of Philadelphia, tendering the thanks of the Section for subscriptions towards the purchase of specimens.

To Geo. Davidson, Germantown, for a fine suite of shells from Alaska.

August 17th.—To Jabez Hogg, London, requesting an exchange of publications.

To G. Nevill, Calcutta, accepting proposals for an exchange.

Nov. 2d.—To Dr. E. Von Martens, Berlin.

To M. F. de Malgve, Bruxelles.

To Capt. J. Mitchell, Madras.

To M. Tasle, Pere, Varennes, France.

To Baron de^oCastello de Paiva, Lisbon.

To M. L. de Folin, Havre.

To M. Jules Chiron, Paris.

To Dr. Leopold Von Schenck, St. Petersburg, desiring an exchange of publications.

All of which is respectfully submitted.

E. R. BEADLE, *Sec'y*.

Dec. 3d, 1868.

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CONSERVATOR'S REPORT.

The Conservator of the Conchological Section respectfully reports that the following donations to the Cabinet have been received during the year :

Six hundred and sixty species of shells, principally from the collection of the late Hugh Cuming and for the greater part new to the museum, were presented, as follows : 267 species by Jos. Jeanes, 86 by Geo. W. Tryon, Jr., 46 by Thos. Sparks, 55 by Edm. Draper, 30 by C. F. Parker, 88 by Rev. E. R. Beadle, 45 by Isaac Lea, and by Wm. S. Vaux 42 species and a valuable specimen of *Cypræa umbilicata*.

From DR. JAS. LEWIS, seven species of fresh-water shells from the vicinity of Mohawk, N. Y.; also specimens of *Melantho decisa*, Say; *M. rufa*, Hald., and *M. integra*, Say.

S. R. ROBERTS. A suite of specimens of *Anodonta fluviatilis*, Soland., from Gray's Ferry, Philadelphia. Deformed specimens of *Anodonta implicata*, from Thorp's Dam, Philadelphia.

WM. M. GABB. About 3200 species, numerous specimens of marine, fluviatile and terrestrial shells.

GEO. W. TRYON, JR. Fifteen species of *Pupa* and *Vertigo*, and two specimens of *Bulimus Jaurassii*,

JOHN CASSIN. Six species from Natal.

J. R. WILLIS. Two specimens of *Pecten islandicus* from Nova Scotia.

E. R. BEADLE. Fifty-five species of marine, fluviatile and terrestrial shells.

E. HALL. Fifteen species.

W. H. PEASE. Four hundred and ninety-six species of Australasian shells, principally marine.

SPIRIDIONE BRUSINA. One hundred and ninety-nine species from the Adriatic Sea.

EDW. D. COPE. Six species of land shells from Western Virginia.

WM. G. BINNEY. *Helix Cooperi*, a unique specimen of an undescribed *Helicina*, and jaw of *Cylindrella trinitaria*.

GEO. DAVIDSON. Sixty-six species, numerous specimens of Alaskan shells.

ISAAC LEA. *Unio ligamentinus*, Lam.; *U. Tappanianus*, eight species of *Unio* from North Carolina and Georgia; *Eurycælon crassa*, Hald., *Amnicola Downiei* and three species of California fresh-water shells.

M. McDONALD. Many specimens of *Helix bucculenta* from Lexington, Va.

H. CROSSE. Eighty species, principally marine shells, from New Caledonia and the Adriatic Sea, and terrestrial shells from Dalmatia.

J. G. COOPER, M.D. Numerous specimens of California fluviatile and terrestrial shells.

PROF. O. A. L. MÖRCH. Seven species of fresh-water and land shells from Greenland.

F. V. HAYDEN, M.D. Nineteen species from Nebraska.

GEO. H. HORN, M.D. *Pisidium insigne*, Gabb, *Pupa Arizonensis*, *P. hordacea*, *Helix Horni*.

SMITHSONIAN INSTITUTION. *Unio pliciferus*, Lea, *U. umbrosus*, Lea.

F. A. GENTH. *Unio merus*, Lea, *U. Uhareensis*, Lea, and *Clausilia Braunii*, Charp.

F. F. CAVADA. Nine species of shells from Cuba.

JOHN GREGORY. One species of *Cypræa* and one of *Cassidaria*.

JOS. LEIDY. Four species from Lake Superior, and two species of *Limniadæ* from Wyoming Territory; *Planorbis trivolvis* and *Amnicola crassa*.

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J. A. McCONNELL. Pearls from Unios from Little Miami River, Warren Co., O.
JOHN FORD. Animal of *Pyruia canaliculata*.

R. E. C. STEARNS. Very fine specimens of forty species of west-coast shells.

DR. JOHN L. LeCONTE. One hundred and thirty-four species of Unionidæ, being the collection of the late Major John LeConte.

J. VAN A. CARTER. Four species from Dakota and Wyoming Territory.

T. N. DALE. Specimens of *Anomia epphipium*.

In presenting this list of the year's donations to the Conchological cabinet, amounting in the aggregate to about 6000 species, your special attention is called to the fine collection of upwards of 3000 species of marine, fluviatile and terrestrial shells presented by Mr. Wm. M. Gabb. This collection is particularly rich in west-coast species, and supplies a very large number of desiderata to our museum. The number of rare and interesting species in our possession has also been greatly augmented by the addition of the shells purchased by subscription from G. B. Sowerby, the greater part of which belonged to the collection of the late Hugh Cuming; by nearly 500 species of Australasian shells received from Mr. Wm. Harper Pease, of Honolulu; by the unique collection of Alaskan shells presented by Geo. Davidson, and by many rare and valuable species of Unionidæ contained in the LeConte collection.

Shells have been sent during the year in exchange to Dr. A. Brot, of Geneva, A. P. Terver, of Lyons, and W. Harper Pease, of Honolulu. For farther information regarding our foreign relations reference is made to the reports of the Corresponding Secretary and the Publication Committee.

Catalogues of all the families from Pholadidæ to Tellinidæ, inclusive, having been completed and published during the year, it is the intention of the Section to commence immediately the systematic arrangement of the Conchological collection. A number of members having volunteered to assist, the shells will now be cleaned, labelled and arranged as rapidly as circumstances will permit.

The Conservator has in his possession a photographic album containing sixty-one portraits of members of the Section and of distinguished Conchologists throughout the world. It is hoped that no opportunity will be neglected of soliciting contributions to this interesting collection from our correspondents.

In conclusion, the Conservator would congratulate the members of the Section that, from the successful operations of the past year, they have so much reason to draw encouragement for the future.

Respectfully submitted by

EDW. J. NOLAN, *Conservator*.

LIBRARIAN'S REPORT.

The Librarian respectfully reports that there have been presented during the past year to the library of the Conchological Section, 11 volumes and 113 pamphlets. Of these 58 were received from authors, 31 from editors, 15 from Societies, 7 from the Publication Committee, 4 from Geo. W. Tryon, Jr., 4 from John Cassin, 4 from H. Crosse and 1 from Wm. M. Gabb.

In addition, twenty-seven pamphlets and continuations of Conchological works have been received by the Academy.

In consideration of the comparative completeness of the Conchological Library, the Librarian proposes, with the sanction of the Library Committee, to number the works in this department at as early a date as possible. It is hoped that this plan will facilitate the work of those wishing to refer to the books, while it lessens the chances of volumes being lost or misplaced.

EDWARD J. NOLAN, *Librarian*.

The election of Officers for the ensuing year was held in accordance with the By-Laws, with the following result :

<i>President</i>	ISAAC HAYS, M. D.
<i>Vice-Presidents</i>	Wm. S. Vaux, John Cassin.
<i>Corresponding Secretary</i>	Edw. D. Cope.
<i>Recording Secretary</i>	S. B. Howell, M. D.
<i>Librarian</i>	Edw. J. Nolan, M. D.
<i>Treasurer</i>	Wm. C. Henszey.
<i>Curators</i>	Jos. Leidy, M. D. Wm. S. Vaux, John Cassin, Edw. D. Cope,
<i>Auditors</i>	Jos. Jeanes, Wm. S. Vaux, Aubrey H. Smith.
<i>Publication Committee</i>	Jos. Leidy, M. D., Robt. Bridges, M. D., John Cassin, Wm. S. Vaux, Edw. J. Nolan, M. D.

The following gentlemen were elected members :

Albert Peale, Franklin Platt, Jr., Edw. A. Spooner, M. D.

The following were elected correspondents :

Geo. Neville, of Calcutta, E. I., and Rev. Dr. Jos. F. Berg, of Rutgers' College, N. J.

ELECTIONS FOR 1868.

The following persons were elected Members :

Jan. 28.—Edward Goldsmith, Joseph F. Sinnott, Rufus Bucknell.

Feb. 25.—C. Newlin Peirce, D.D.S., Stephen Morris, Thos. T. Tasker, Jr., Stephen P. M. Morris, Henry G. Morris, Jas. E. Caldwell.

March 31.—Richard Peltz.

April 28.—H. C. Chapman, M.D., Charles Wilson Peale, Benj. Bullock, Thomas Webster, Dr. E. Dyer.

May 26.—Edward Lewis, Jas. Freeman, M.D., Wm. Freeman, M.D., S. Fisher Corlies, T. W. Starr, Edwin Rhoades, M.D., T. H. Andrews, M.D., Herbert Morris, M.D., Jas. S. Gilliams, Charles Bullock, Edward L. Huitt, Joseph Zentmayer, August F. Müller, F. F. Maury, M.D., Horace Williams, M.D., W. L. McFadden, Wm. H. Walmsley, Robert W. Hargadine, M.D., T. L. Buckingham.

June 30.—Gilbert Combs, L. S. Bolles, M.D., J. F. Holtt, M.D., Isaac Comly, M.D., Francis P. Steel, Dr. Wm. Thomson, Rodger Sherman, John E. Carter, Wharton Barter.

July 28.—George Roberts, M.D., Levi Taylor.

Aug. 25.—B. Waterhouse Hawkins, Uselma C. Smith.

Sep. 29.—D. G. Brinton, M.D.

Oct. 27.—Philip S. Wales, M.D.

Nov. 24.—W. Mitchell McAllister, Emil Fischer, M.D. Isaac C. Price, Joseph G. Richardson, M.D., Wm. M. Darlington.

Dec. 29.—Albert Peale, Edwin A. Spooner, M.D., Franklin Platt, Jr.

The following were elected Correspondents :

March 31.—Major Geo. Clendon, Jr., Glens Falls, N. Y. ; Dr. Fred. Stoliczka, Calcutta ; R. H. Stretch, San Francisco, Cal.

April 28.—Dr. Theophilus H. Turner, U.S.A. ; Augustus Fendler, Allentown, Md.

May 26.—A. R. Roesler, Washington, D. C. ; Hon. J. S. Wilson, Washington, D.C. ; John Tomes, F.R.S., London.

June 30.—Dr. John F. Boynton, New York City, N. Y. ; Prof. James Orton, Rochester, N. Y.

July 28.—Wm. T. Bingham, Boston, Mass ; Alponse Milne Edwards, Paris, France ; Rev. Sam. Haughton, Dublin, Ireland ; W. Kitchen Parker, F.R.S., London ; T. Spencer Cobbott, M. D. ; London.

Aug. 25.—Ralph Tate, Lon. Eng. ; Prof. Oliver Wendell Holmes, Boston.

Oct. 27.—A. A. Breneman, Lancaster Co., Penn. ; Dr. L. E. Latimer, N. Y. ; Dr. H. Evan Rijgersma, St. Mortins, W. I.

Nov. 24.—Prof. H. James Clark, Centre Co., Pa.

Dec. 29.—Geo. Neville, Calcutta, E. I. ; Rev. Dr. Jos. F. Berg, Rutgers College, N. J.

CORRESPONDENCE OF THE ACADEMY, For 1868.

January.—La Société Hollandaise des Sciences, announcing that they have forwarded the Archives Néerlandaise, t. i, 3, 4, 5.

K. K. Zoologisch-botanische Gesellschaft, Wein, acknowledging receipt of Proceedings.

Geological Museum, Calcutta, with their publications for the Library.

Nassauischen Vereins für Naturkunde, Weisbaden, acknowledging receipt of Proceedings and sending publications in return.

Der Naturforschende Verein zu Riga, acknowledging receipt of Proceedings and with publications sent in return.

Geo. W. Davidson, Edinburgh, Scotland.

Harrison Allen, resignation of office, Corresponding Secretary.

Real Observatoire de Madrid, with donations for Library.

February.—American Entomological Society ;

Der Naturwissenschaftliche Verein Lüneburg ;

Naturforschenden Gesellschaft, Berlin, severally acknowledging receipt of Proceedings.

Université Catholique de Louvaine, acknowledging receipt of publications of the Academy, and sending the publications of the University in return.

Die Naturhistorische Verein, Hanover, with publications.

Geo. Davidson, U. S. Coast Survey.

Gesellschaft der Wissenschaften zu Göttingen, with publications.

Thomas A. Scott, Phila.

B. Dyer, S. Abington, Mass.

D. E. Macpherson, conveying information of the death of Sir David Brewster, Feb. 10, 1868.

From Neuwied, conveying information of the death of Prinzen Maximilian zu Wied.

March.—Geological Museum, of Calcutta, India ;

Museum at Bergen, Norway ;

Essex Institute and Die naturforschende Gesellschaft, severally acknowledging receipt of Proceedings.

Universitatis Carolinæ Lundensis Rector.

Prof. Joseph Henry, Smithsonian Institution.

Chicago Academy of Natural Sciences, with transactions.

Canadian Sec. of State, with Report of the Progress of Canadian Geological Survey, from 1863 to 1866.

K. K. Zool. botan., Gessellschaft, with donations to the Library.

Edward L. Berthoud, Golden City, Colorado, acknowledging receipt of diploma.

April.—Rector de la Universidad de Chilé.

L. S. Ward, Treas. Foreign Missions, New York.

H. H. Jessup, Montrose, Pa.

R. Odinet, Agent of Havre, Boston and Philadelphia Steamship Company.

E. B. Cary, Ann Arbor, Mich.

G. Schwartz, Vienna, acknowledging election as correspondent.

H. B. Wetzell, Phila.

Samuel Jeanes, resignation of membership.

Naturkunde Gesellschaft in Württemberg, acknowledging receipt of Proceedings.

Naturwissenschaftliche Verein zu Bremen ;

Académie Royale de Belgique ;

Akademie der Wissenschaften, severally sending publications.

May.—Prof. Joseph Henry.

J. S. Wilson, Geological Museum, Gen. Land Office.

J. F. Williams, Sec. Minnesota Hist. Society.

Boston Society of Nat. History, acknowledging receipt of Proceedings and Journal and accompanied by publications in return.

Zoolog. Museum in Vienna, asking that deficiencies in Academy publications may be supplied.

M. Sumichrast Orizaba.

Jas. M. Fisher, Pittsburg, Pa.

S. A. Briggs, Chicago, Ill.

William Pepper, M. D., Phila.

Jas. Orton, Rochester, N. Y.

June.—John Henry Gurney, Devonshire, acknowledging election as Corresponding member.

A. Ten Brock, Librarian of the University of Michigan ;

Warren & Co., Liverpool Steamship Office ;

Antonio de Lecerda, Bahia ;

Alexander Schyanoff, Kiev ;

Lyceum of Natural Hist. of New York, each acknowledging receipt of Proceedings.

Naturforschende Gesellschaft in Dantzig, acknowledging receipts of Proceedings, and presenting publications in return.

La Fondation Teyler à Harlem, presenting publication.

July.—Wharton Barker, acknowledging election.

Essex Institute, acknowledging receipt of Proceedings.

Prof. Joseph Henry, Smithsonian Inst

A. R. Roessler, Washington, Gen. Land Office.

G. W. Coan, Oroomiah, Persia.

Franz Baumgartner, announcing the death of Andreas Freiherrn von Banm-gartner.

Real Observatoire de Madrid, with donation for Library.

August.—Royal Geog. Soc. London, sending 37th vol. of Journal.

D. G. Brinton, acknowledging election.

Académie Royale de Belgique, acknowledging receipt of Proceedings.

Nat. Hist. Society of Northumberland, announcing the sending of Nat. Hist. Transactions, and asking for papers in return.

Hungarian Academy of Science, acknowledging receipt of Proceedings and presenting books to the Library.

British Museum ;

Geological Society of London, each acknowledging receipt of Proceedings and Journal.

Linnean Society acknowledging receipts of Jour. and Proceed.

Prof. Joseph Henry.

Edward C. H. Day, Scarsdale, N. Y.

James Orton, Rochester, N. Y.

Dr. G. Radly, Tiflis.

T. H. Turner, Fort Wallace, Kansas.

Alexander Clot Bey, announcing the death of Monsieur Antoine Barthélemy Clot Bey.

September.—Leeds Philosophical and Literary Society ;

Naturforschende Verein in Brünn ;

Natural Hist. Society of Northumberland, each acknowledging receipt of Proceedings.

American Pharmaceutical Association, acknowledging receipt of invitation to visit Museum of the Academy.

W. W. Keen, M.^d, Phila.

J. A. Allen, Springfield, Mass.

James Orton, Rochester, N. Y.

October.—Smithsonian Institution, acknowledging receipt of Proceedings.

Essex Institute, acknowledging receipt of Proceedings.

- E. C. Bolles, asking for copies of Journal.
 Jas. Orton.
 Mahlon Carver.
 John S. Hart, of Trenton Normal School, asking privilege of using the Museum
 Prof. C. Root, of Hamilton College, acknowledging election.
November.—Jas. D. Dana.
 A. R. Roessler, Gen. Land Office.
 Thomas Barnett, with casts for the Museum.
 Augustus Fendler, acknowledging election.
 John Akhurst.
December.—Die Gesellschaft der Wissenschaften, acknowledging receipt of Proceedings and presenting publications.
 Schweizerische Gesellschaft and Naturforschende Gesellschaft, each acknowledging receipt of Proceedings and presenting publications in return.
 Die Senckenbergische Naturforschende Gesellschaft, presenting publications.
 Wm. T. Brigham, Boston.
 Prof. O. W. Holmes, Boston.
 Whole number of letters received 98.

DONATIONS TO THE MUSEUM.

1868.

(For donations to Conchological cabinet, see Report of Conservator of Conchological Section.)

- Adams, C. B. *May 5th.* *Celestus impressus*, Jamaica.
 Adams, J. *July 7th.* Coral.
 Allen, Dr. H. *July 7th.* *Astacus* from Ockoganey River.
 Beadle, Rev. E. R. *Nov. 3d.* Gigantic crystal of Felspar from Newcastle Co., Del.; eight specimens of Numulitic limestone from Northern Syria; block of permian limestone from Junction City.
 Borda, E. *March 10th.* Specimen of fruit.
 Bourquin, F. *July 7th.* Dryopteris, Polypodium.
 Bradner, Dr. N. Roe. *Dec. 1st.* Large specimen of Shell Rock from the reefs of Florida.
 Brevoort, J. C. *Nov. 3d.* *Loxopholis rugiceps*, Cope, from New Grenada.
 Brinton, Dr. D. G. *Nov. 3d.* Queen Termite from Cape Palmas, Africa.
 Bryan, O. N. *May 5th.* Skulls of two species of *Lepidosteus*.
 Burk, I. and E. Diffenbach. *Jan. 21st.* A collection of 53 plants of Pennsylvania and New Jersey.
 Claghorn, Jas. H. *Nov. 3d.* Stalactite from Cave of Addelsburg, Austria.
 Clay, Jos. A. *Jan. 21st.* A serpent from Peru.
 Cope, E. D. *Jan. 7th.* One reptile from Brazil, 45 specimens, 9 species of fishes from Conestoga River; 164 specimens, 15 species from Roanoke River; 151 specimens, 34 species from James River, Va.; 644 specimens, 26 species from Kanawha River, Va.; 460 specimens, 33 species from Holston River. *Jun. 14th.* A collection of upwards of 1000 specimens, 40 species of teeth of sharks and other fishes from the miocene of Charles Co., Md. *Jan. 21st.* Five species of fishes from Potomac River, 10 species from Wabash River, and 9 species of reptiles from Rocky Mountains. *Feb. 4th.* Seven species of skins of fishes, many specimens from Brown's Mills, N. J.; small collection of subcarboniferous fossils from west side of Saltville, and from Walker's Mt., Smith Co., Va.; small collection of

- coal plants and specimens of coal from carboniferous formation of Richmond, Va.; skins of *Arvicola pinetorum*, *A. Pennsylvanica*, *Scalops Canadensis*, *Jaculus Hudsonius* and *Blarina Carolinensis*, from Charles Co., Md. *March 3d.* Eighteen species of Reptiles, one Crustacean, one Insect, from Central America. *March 10th.* Large serpent from Vera Paz, C. A., and a small collection of mammals and birds in alcohol from Giles Co., Va. *May 5th.* Specimens of *Neotoma Floridana*, Austinville, Wythe Co., Va.; *Heterodon* from Saltville, Va.; *Celestus striatus*, Jamaica; and a snake from Central America. *May 19th.* Nineteen jars of fishes, from Kansas; skull of *Globiocephalus melas*, from New Jersey. *June 2d.* A collection of fossil Unionidæ, from the green sand of New Jersey; numerous remains of *Lelaps aquilungus*, from the green sand of Barnsboro', Gloucester Co., N. J.; femur of *Hadrosaurus Foulkii*, from the same locality. *June 23d.* *Megaptera pusilla*, Cope, from the miocene, Charles Co., Md.; *Ixacanthus velox*, Cope, from same locality. *July 7th.* Skeleton of *Aspidonectes spinifer*, from Alleghany River, Pa.; a Skate from Syria. *July 21st.* Five mammal skins; a red squirrel; *Jacare punctatula*; twenty-two jars of reptiles, fishes, &c., from Magdalena River, New Grenada. *Sept. 1st.* A collection of mammals and reptiles in ten jars, from Bahia, Brazil; six bird skins from St. Bartholomew, W. I. *Sept. 15th.* Fourteen jars of reptiles, containing fourteen species from various localities. *Nov. 3d.* Collection of remains of sixteen species of extinct Cetacea from the miocene of Charles Co., Md.; mounted skeleton of *Palumedeia cornuta*; a collection of forty species of reptiles of the Orton Expedition to Equador; a collection of reptiles from Brazil and Central America. *Nov. 10th.* *Crocodilus Americanus* from Cuba. (See Welsh.)
- Corse, Dr. J. M. *Dec. 1st.* Four skulls and casts of faces of noted murderers; numerous jars of embryo sheep of various ages, parasitic animals, fine injections for microscopic observation, and various specimens in comparative anatomy; skull of a Flat-head Indian; two skulls from an Indian mound near Rock Island, Ill.; skeleton of an Eagle; specimens of copper ore.
- Craven, Joseph H. *July 7th.* Beautiful specimen of *Euplectella*.
- Crosby, Peirce. *Aug. 4th.* Specimen of Fruit from Para, Brazil.
- Davidson, Geo. *Jan. 7th.* Five specimens of the male and female skeleton of the Sea Otter, from Alaska. *March 3d.* Fifteen specimens of Fishes, 3 Echinoderms and 2 Crustacea from Alaska.
- Davidson, Thos. and George. *Aug. 4th.* Large and valuable collection of Fishes from Santa Cruz, West Indies.
- Davis, Edw. *July 21st.* Pair of antlers.
- Day, Edw. *Sept. 1st.* A collection of Reptiles in five jars, from Equador.
- Dieffenbaugh, E. See Burk.
- Draper, E. *Jan. 14th.* Fine specimen of Pyrites with Blende from Mexico, and specimens of Quartz with Chalybite.
- Eddy, Rev. E. B. *May 5th.* A collection of fossils, consisting of a large coral and 16 brachiopods.
- Ellis, J. B. *March 3d.* Specimen of Tuckahoe, from Newfield, N. J.
- Engelmann, G. *April 21st.* Herbarium Juncorum Boreali Americanorum Normale ed. G. Engelmann. St. Louis, 1868.
- Gabb, Wm. M. *Jan. 7th.* Forty-five specimens, thirteen species of Reptiles from California. *Jan. 14th.* Skin of *Taxidea Berlandieri*, from Central Nevada; four species of Serpents from Lower California; two specimens of a Myriapod and nest of a Mygale from California. *Jan. 21st.* Two bats from Pigeon Springs, a small Rodent from Western Nevada, and a *Crotaphytus* from same locality; skull of a hare; skins of four species of snakes from Lower California. *Feb. 4th.* Two specimens of *Onychoteuthis fusiiformis*, Gabb, from Society Islands; five species of Echinoderms from California; two species of Crustaceans from St. Barbara, Cal.; *Ilyalonema Sieboldii* from Japan. *May 5th.* *Eutania vagrans* from Nevada. *Oct. 13th.* An Agouti from Panama. *Oct. 20th.* Two specimens of fossil

- fishes from Hillsborough, N. B. *Nov. 3d.* Collection of Graptolites, nine species, from Hudson River group, two miles below Albany, N. Y. *Nov. 10th.* A small collection of remains of fishes from the cretaceous formation of California. *Dec. 1st.* A large collection of fossils, consisting of about 500 species and 3000 specimens, belonging to the triassic, cretaceous and tertiary formations of California, Nevada and Oregon, deposited.
- Genth, Dr. F. A. *Aug. 4th.* Specimens of *Clausilia Braunii*, Charpentier, from Weinheim, Hesse Darmstadt; ear-bone of Whale from Gulf of California.
- Gibbon, Gen. John, through Dr. Wilcox. *Aug. 12th.* Baculite from near Fort Sanders, Dakota.
- Gibbons, Dr. W. P., through Dr. Bridges. *Jan. 7th.* A collection of one hundred and seventeen California plants.
- Goldsmith, E. *Oct. 20th.* Bole from South Amboy.
- Greer, Col. Jas., through Dr. Ruschenberger. *Dec. 1st.* Five Devonian fossils from Columbus, Ohio; 26 Lower Silurian fossils from Dayton, Ohio; fragment of wood from Drift from Dayton, Ohio; fossil Coral from near same locality.
- Grout, Rev. A. *Jan. 21st.* Ten species of Invertebrates and one Vertebrate, from Tulu Land, S. Africa.
- Guillon, C. *July 7th.* A small miscellaneous collection of Minerals. *July 14th.* Fine Testudo geometrica, from Madagascar.
- Hall, Geo. W. *March 3d.* Mastodon tooth from Illinois.
- Hassler, Dr. F. A. *Dec. 22d.* Celestine from Sicily; one Coal, two Hematites from Bibb Co., Ala.; Hematite from Missouri; Mica from Philadelphia, and nine specimens of Coal Fossils from Rhode Island and Mauch Chunk, Pa.
- Hayden, Dr. F. V. *April 21st.* Lignite from Colorado, a number of *Ostrea subtrigonalis*, and an *Inoceramus* from Colorado.
- Hayes, Dr. I. I. *July 7th.* Two skulls of Walrus and two of Esquimaux Dogs.
- Hoopes, B. A. *Oct. 13th.* Fine large crystallized Calcite from Cumberland, England.
- Horn, Dr. Geo. H. *Jan. 7th.* Three species of Reptiles from Arizona. *Feb. 4th.* Fresh-water Sponge, near Susanville, Honey Lake Valley, Cal.; tin ore from Temescal, Cal. *April 21st.* *Psidium* from Fort Tejon, Cal.
- Hornet's nest. *Jan. 7th.*
- Hunt, Rev. W. E. *Nov. 3d.* Fragment of Ancient Pottery and Human Bones, with the greater portion of a Skull from Coshocton, Ohio.
- Jeanes, Jos. *July 7th.* Skeleton of Jackal, from Syria.
- Judson, Dr. O. A. *Jan. 21st.* A small collection of Fossils from Pike Co., Pa., and the fossil rib of a Cetacean from Virginia.
- Kokler, Wm. *Dec. 1st.* Four Fossils from Hannover, Germany.
- Lambert, J. *June 23d.* A large Spider from Montgomery Co., Pa.
- Lamborn, R. H. *Nov. 3d.* Two obscure Fossils from Huronian Slate, St. Louis R., Min.
- Lavergne, Felix. *Oct. 13th.* Three specimens of native Sulphur from Nevis, W. I.
- Lea, I. *Dec. 1st.* Skull of the Mississippi Snapper. (See Welsh.)
- LeConte, Dr. J. L. *Jan. 14th.* A Serpent, Spider, Cicada, two Myriapods, and a Lizard from Fort Craig, N. M. *April 21st.* A collection of Fossil Tertiary and Cretaceous Plants, (recently described by Mr. Lesquereux) from Colorado, New Mexico and Kansas, an *Inoceramus* from Colorado. *May 19th.* A collection of upwards of 6000 species of exotic Coleoptera belonging to the late Dr. Zimmerman. Presented by Dr. J. L. LeConte, Dr. E. J. Lewis, Dr. Geo. H. Horn, Dr. F. W. Lewis, Isaac Lea, S. S. Halde- man and E. Draper.
- Leidy, Dr. Jos. *June 2d.* *Stigmariæ* and other coal plants, six species.
- Lewis, Dr. E. J. *Jun. 7th.* Portion of the Jaw of a Fish. *March 17th.* One *Nyctale Acadica*, 2 *Cardinalis Virginianus*, *Sialia Wilsonii*, *Picus Pubes-*

- zens, from Harford Co., Md. *Oct. 13th.* Large collection of Nests and Eggs of Birds, from Harford Co., Md.
- Lincecum, Dr. G. *Jan. 7th.* One hundred and four specimens, fourteen species of Reptiles from Texas.
- Lyman, B. S. *Nov. 3d.* Asphaltum from Trinidad and Matanzas, Cuba; crystals of Smoky Quartz, from Mt. St. Gothard, Sd.
- Matthews, C. W. *May 5th.* Sigillaria from Lawrence Co., Ala.
- Meehan, Thos. *Jan. 7th.* Two fossil remains of Fishes, *Amphidectes Gladiolus*, Cope, and *Polygryphus prehensilis*, Cope; from Sandusky, Ohio.
- Moss, Theo. F. *March 24th.* Crystallized Titanium, from Scotland.
- Parker, H. R. *April 14th.* A large Devonian Fossil from Oil Creek, Venango Co., Pa.
- Peale, Charles W. *June 23d.* Calamite from Shamokin, Cumberland Co.
- Pennock, Homer. *July 7th.* Five fortification Agates, deposited.
- Philips, Moro. *June 2d.* Three specimens of Ossite from Sombra, W. I., and a specimen of the same from Ashley River, S. C.
- Powell, Saml. *Sept. 1st.* A miscellaneous collection of Marine Animals, consisting of Fishes, Mollusks, Echinoderms, Crustaceans, &c., from Newport, R. I.
- Raborg, Wm. *Nov. 3d.* *Chrysothrix Sciureus*, from Amazon River.
- Rand, Theo. D. *March 3d.* Stilbite from Flat Rock Tunnel. *March 10th.* Graphie Granite and Muscovite with Magnetic Iron.
- Randall, F. A. *Sept. 1st.* Two jars of Reptiles from Warren Co., Pa. *Oct. 20th.* A small collection of Paleozoic Fossils.
- Rice, John. See Welsh.
- Rothrock, Dr. J. T. *March 17th.* A small collection, chiefly of Devonian Fossils, from Mifflin, Alleghany and Centre Co's, Pa.
- Salt Works, Washington Co., Va. *Feb. 4th.* Tusk, molar tooth and epiphysis of humerus of Mastodon and ramus of lower jaw of a Bison.
- Sergeant, J. D. *Oct. 13th.* Nest of the Baltimore Oriole, made exclusively of wool and horse-hair, from Western Pennsylvania.
- Siebold, Prof. Von. *May 19th.* Teeth of seven species of Cyprinidæ, with many varieties of specimens.
- Skin of an Eel, which weighed $9\frac{1}{2}$ lbs., and was caught in Hunter's Lake, Sullivan Co., Pa.
- Smith, T. Guilford. *March 24th.* Five specimens of Gold Ores from Colorado.
- Smithsonian Inst. *May 5th.* Eight species of *Amblystoma*. *Aug. 12th.* *Anodonta Yonkanensis*, Lea. *June 2d.* Twenty species of Reptiles from Guayaquil, Quito and Upper Amazon.
- Snell, P. A. *March 10th.* Mass of calcareous Tufa from Utica, Ill.
- Snyder, W. B. *May 19th.* Indian Skeleton, &c., from a mound at Bellevue, Nebraska.
- Struthers, Wm. *Oct. 13th.* Conglomerate from the red sandstone of Portland, Con.
- Sumichrist, F. *Jan. 7th.* Eighty-six specimens, nine species of Fishes from Mexico.
- Turner, Dr. Theo. H. *Dec. 15th.* A collection of fossil remains of a huge Saurian, comprising the greater part of the skeleton, described by Prof. Cope under the name of *Elasmosaurus*, from about 15 miles of Fort Wallace, Kansas.
- Two fossil Fishes from Solenhofen Slate.
- Tyson, Saml. *Oct. 20th.* Three specimens of Wavellite from Chester Co.
- Ulex, Geo. J. *May 19th.* Specimen of Struvite from Hamburg.
- United States Sanitary Commission. *Dec. 15th.* A set of instruments consisting of an Andrometer, Spirometer, Dynamometer, Facial-Angle Instrument and Callipers, for Anthropological measurements.
- Vaux, Wm. S. *March 3d.* Fine specimen of Phlogopite, Rossie, St. Lawrence Co., N. Y. *March 24th.* Skull of *Chelone Mydas*. *July 7th.* Skel-

- eton of Fox from Syria. *Oct. 6th.* Very fine specimen of Tetrahedrite, coated with Pyrites from Liskeard, Cornwall. (See Welsh.)
- Walton, Jos. *May 5th.* Two tertiary fossil Shells from Aquia Creek, Va. *Acantharchus promotis* from New Jersey. *Sept. 1st.* A Silurian Fossil from the Catskill Mts.
- Welsh, Saml. and John. *Dec. 22d.* A portion of the Poirrier Collection of Remains of Mammals Birds and Fishes from the Miocene, Pliocene and Post-Pliocene formations of the Valley of the Loire, France. Purchased at a cost of \$700.00, and presented by Messrs. Samuel and John Welsh, Isaac Lea, Wm. S. Vaux, Wm. P. Wilstach and John Rice. Obtained through Prof. E. D. Cope.
- Westcott, Chas. S. *Dec. 1st.* Mounted specimen of a Goshawk, *Astur palumbarius*, from Monroe Co., Pa.
- Wheelock, L. P. *Feb. 4th.* A collection of 58 specimens of fossils, consisting of remains of Fishes, Mollusks and Corals, from the corniferous limestone near Sandusky, Ohio.
- Willis, J. R. *Jan. 14th.* A collection of Coal Fossils, Minerals, Shells and Crustaceans from Nova Scotia. *Jan. 21st.* Eight species of Fishes from Nova Scotia; six Invertebrates from same locality.
- Wilstach, W. P. See Welsh.
- Wood, Dr. H. C. *May 5th.* A collection of 19 bottles (containing numerous specimens) of as many species of Phalangidæ.
- Wood, Wm. S. *Oct. 13th.* Young of *Cyanura cristata*, *Picus pubescens* and *Melospiza melodia*, from New Jersey.
- Wright, Jas. A. *March 17th.* A complete articulated skeleton of the Irish Elk, (*Cervus Hibernicus*) together with the skull and fore part of the other bones of another skeleton.
- Yarnal, H. *June 23.* Deer from near Kane, McKean Co., Pa.

DONATIONS TO THE LIBRARY.

1868.

JOURNALS AND PERIODICALS.

NORWAY.

- Christiana. Det Kongelige Norske Fredericks Universitets, Aarsberetning for Aaret 1866—1867. From the University.
- Forhandlingar i Videnskabs-Selskabet i Christiania. Aars 1865 and 1866, 1866—1867. From the Society.
- Thronhjelm. Det K. Norske Videnskabers-Selskabs Skrifter det 19de Aarhundrede. 5te Bands, 1ste Heft, 1865. Also from 2 Band, 1ste Heft, to 4de Band, 1ste Heft, 1824—1846. From the Society.

DENMARK.

- Kjobenhavn. Oversigt over det Kongelige Danske Videnskabernes Selskabs. 1866, No. 7; 1867, Nos. 4 and 5. From the Society.
- Mémoires de la Société Royale des Antiquaires du Nord, 1850—1860, 1861, 1866. From the Society.
- Tillaeg til Aarbger for Nordisk Oldkyndighed og Historie, aargang 1866—1867. From the same.
- Det Kongelige Danske Videnskabernes Selskabs Skrifter, Sjette Bind, and Femte Raekke, Syvende Bind, 1867. From the Society.

RUSSIA.

Dorpat. Sitzungsberichte der Naturforschenden Gesellschaft zu Dorpat in den Jahren 1853—1863. From the Society.

Archiv für die Naturkunde Liv-Ehst und Kurlands. Herausgegeben von der Dorpater Naturforscher Gesellschaft. Erste Serie. 3er Band, 3e and 4e Lief.; 4er Band, 1e Lief., zweite Serie. Biologische Naturkunde, 6er Band, 1e und 2e Lief., 7er Band, 1e Lief., 1862—1867. From the Society.

Moscou. Bulletin de la Société Impériale des Naturalistes de Moscou, 1867, Nos. I—IV. From the Society.

Riga. Correspondenzblatt des Naturforscher Vereins zu Riga, 16er Jahrg, 1867. From the Society.

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